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8-79

CATALOGUE

190

BOARD OF EDUCATION

AND

CIRCULAR

OF THE

University of Colorado

AT

BOULDER, COLORADO.

1876--1879.

1881-91.

BOULDER:

NEWS AND COURIER BOOK AND JOB PRINTING ESTABLISHMENT.

1879.



Learning and Labor.

LIBRARY

OF THE

University of Illinois.

CLASS.

BOOK.

VOLUME.

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1875-79,  
1881-91

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# CATALOGUE

AND

## CIRCULAR

OF THE

# ❖University of Colorado❖

AT

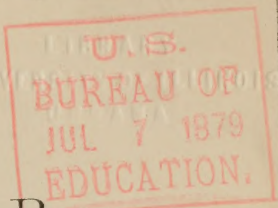
BOULDER, COLORADO.

— • —  
1878--1879.  
— • —

BOULDER:

NEWS AND COURIER BOOK AND JOB PRINTING ESTABLISHMENT.

1879.





YMAHESI  
BIOGRAPHICAL MEMOIR  
JAMES W.





## Board of Regents.

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TERM EXPIRES 1880.

L. W. DOLLOFF, . . . . . BOULDER.

C. VALDEZ, . . . . . CONEJOS.

TERM EXPIRES 1882.

GEORGE TRITCH, . . . . . DENVER.

F. J. EBERT, . . . . . DENVER.

TERM EXPIRES 1884.

JUNIUS BERKLEY, . . . . . BOULDER.

H. M. HALE, . . . . . CENTRAL.

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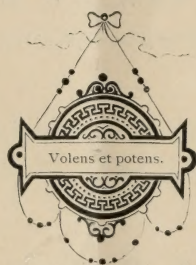
### OFFICERS OF THE BOARD.

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F. J. EBERT, . . . . . PRESIDENT.

JUNIUS BERKLEY, . . . . . SECRETARY.

J. A. COOPER, . . . . . TREASURER.





# University Course.

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## STUDENTS.

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### FRESHMEN.

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#### LADIES.

#### RESIDENCES.

Lilian Emma Tyler, . . . . . Boulder.

#### GENTLEMEN.

Gustavus Adolphus Williamson Cage, . . . . . Greeley.  
Henry Alexander Drumm, . . . . . Valmont.  
Oscar Eugene Jackson, . . . . . Valmont.  
James Irvin McFarland, . . . . . Longmont.  
John Julian Mellette, . . . . . Boulder.  
Montford Schley Whiteley, . . . . . Boulder.  
Richard Henry Whiteley, Jr., . . . . . Boulder.  
Harold Davis Thompson, . . . . . Boulder.  
Louis Sylvester Thompson, . . . . . Boulder.

Ladies 1. Gentlemen 9.





# Preparatory Course.

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## STUDENTS.

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### A CLASS.

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#### LADIES.

Nellie F. Barker, . . . . .	Boulder.
Annie R. Colburn, . . . . .	Boulder.
Julia Housel, . . . . .	Valmont.
Alice M. Leonard, . . . . .	Boulder.
Addie C. Metz, . . . . .	Boulder.
Ella Tyler, . . . . .	Boulder.

#### GENTLEMEN.

Augustus W. Colburn . . . . .	Boulder.
Charles B. Gallup . . . . .	Boulder.
Ernest M. Pease . . . . .	Valmont.
Timothy Stanton . . . . .	Boulder.

Ladies, 6. Gentlemen, 4.

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### B CLASS.

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#### LADIES.

Mina A. Andrews . . . . .	Boulder.
Helen I. Beardsley, . . . . .	Boulder.





## Normal Department.

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### LADIES.

Hattie Babcock, . . . . .	Lincoln, Neb.
Josephine Berkley, . . . . .	Boulder.
Jane Carnahan, . . . . .	Valmont.
Lilian Butters, . . . . .	Denver.
Mary Duncan, . . . . .	St. Vrain.
Clara Gladhill, . . . . .	Sommerville.
Lu Hunt, . . . . .	Boulder.
Orpha Ingersoll, . . . . .	Crisman.
Mary E. Jones, . . . . .	Nederland.
Mamie McCaslin, . . . . .	Longmont.
Emma C. Reed, . . . . .	Valmont.
Carrie Sewall, . . . . .	Boulder.
Effie Stevens, . . . . .	Boulder.
Mary VanValkenburg, . . . . .	Erie.
Cynthia Westover, . . . . .	Denver.
Sylvia Wilson, . . . . .	Modoc.

### GENTLEMEN.

Walter Babcock, . . . . .	Lincoln, Neb.
William Connor, . . . . .	Lake City.
Edward Duncan, . . . . .	St. Vrain.
Ernest Goodell . . . . .	Boulder.
Everett Hepner, . . . . .	Longmont.
Mitchel Pickel, . . . . .	Boulder.

Ladies, 16. Gentlemen, 6.

University, 10. Preparatory, 54. Normal, 22. Total, 86.

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NOTE.—The A Class has completed the Preparatory work and is now ready to enter the Freshman class of the University Course.  
 The B Class will complete the work in one year.  
 The C Class will complete the work in two years.

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### TERMS OF ADMISSION.

1.—Applicants of *every grade* must pass an examination in English Grammar, Geography, History of the United States, Arithmetic, Reading and Orthography.

2.—Candidates for the Freshman Class will be examined in the studies of the Preparatory Course, or their equivalents.

3.—Those proposing to enter any course at an advanced standing, will be examined in such studies of the course as may have been pursued previous to their admission.





# Preparatory Course.

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## FIRST YEAR.

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### FIRST TERM.

*Latin*—Grammar and Reader.  
Olney's Complete Algebra.  
Etymology and Syntax (English.)

### SECOND TERM.

*Latin*—Grammar and Reader.  
Olney's Complete Algebra.  
Elementary Rhetoric.

### THIRD TERM.

*Latin*—Grammar and Reader.  
Olney's Complete Algebra.  
Physiology.

## SECOND YEAR.

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### FIRST TERM.

*Latin*—Cæsar, Grammar and Latin Prose Composition through the course.

- Elective.* { *Greek*—Grammar and Lessons.  
*German*—Otto's Grammar and Conversation.  
*French*—Otto's Grammar and Conversation.  
 Ancient History and Geography.

## SECOND TERM.

- Latin*—Cæsar.  
*Elective.* { *Greek*—Grammar and Lessons.  
*German*—Otto's Grammar and Conversation.  
*French*—Otto's Grammar and Conversation.  
 Elementary Physics.

## THIRD TERM.

- Latin*—Cicero's Orations.  
*Elective.* { *Greek*—Grammar and Lessons, Xenophon's An-  
 abasis.  
*German*—Otto's Grammar and Conversation.  
*French*—Otto's Grammar and Conversation.  
 Botany.

## THIRD YEAR.

## FIRST TERM.

- Latin*—Cicero's Orations.  
*Elective.* { *Greek*—Xenophon's Anabasis, Grammar and  
 Greek Prose Composition through the  
 year.  
*German*—Otto's Reader.  
*French*—Otto's Reader.  
 Chemistry.

## SECOND TERM.

- Latin*—Virgil's Æneid.  
*Elective.* { *Greek*—Xenophon's Anabasis.  
*German*—Otto's Reader.  
*French*—Otto's Reader and Dictation Exercises.  
 Geometry.



THIRD TERM.

*Latin*—Virgil's *Æneid*.

*Greek*—Anabasis.

*Elective.* { *German*—Schiller's *Neffe als Onkel*.

*French*—Otto's Reader.

Physical Geography.

Students in the Preparatory Department intending to pursue the Scientific Course, will take French or German instead of Greek.





# University Classical Course.

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## FRESHMAN YEAR.

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### FIRST TERM.

*Latin*—Cicero *De Senectute*, Livy; Latin Grammar and Prose Composition.

*Greek*—Select Orations of Lysias, Greek Grammar and Prose Composition.

Olney's University Algebra.

### SECOND TERM.

*Latin*—Livy, Roman History begun.

*Greek*—Homer.

Plane and Solid Geometry, Olney.

### THIRD TERM.

*Latin*—Horace.

*Greek*—Homer, History of Greece begun.

Trigonometry, Olney.

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## SOPHOMORE YEAR.

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### FIRST TERM.

*Latin*—Horace.

*Greek*—Herodotus and Thucydides.

Olney's General Geometry and Calculus.

Preparation of Themes.



## SECOND TERM.

*Latin*—Juvenal or Plautus.

*Greek*—Tragedy, Greek and Roman Antiquities.

*Elective.* { Olney's General Geometry and Calculus.  
English Literature and Elocution.

## THIRD TERM.

*Latin*—Quintilian.

*Greek*—Tragedy.

Cryptogamic Botany.

Surveying, with field practice.

## JUNIOR YEAR.

## FIRST TERM.

*Latin*—Tacitus.

*Greek*—Demosthenes.

Physics.

*Elective.* { *German.*  
*French.*

## SECOND TERM.

*Latin*—Cicero (Philosophy).

*Elective.* { *Greek*—Plato.  
*German.*  
*French.*

Astronomy.

## THIRD TERM.

*Elective.* { *Latin.*  
*Greek.*  
*German.*  
*French.*

Chemistry,—Lectures.

Rhetoric.

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SENIOR YEAR.

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FIRST TERM.

Geology.  
Political Economy.  
English Literature.

*Elective.* { *Latin.*  
*Greek.*  
*German.*  
*French.*

SECOND TERM.

Constitutional Law.  
Mental Science.

*Elective.* { *Greek.*  
*Latin.*  
*German.*  
*French.*  
Logic.  
International Law.

THIRD TERM.

Moral Science.

*Elective.* { *Greek.*  
American Literature.  
Zoology.







# University Scientific Course.

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## FRESHMAN YEAR.

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### FIRST TERM.

- Elective.* { *German*—Schiller's Historical Prose.  
*French*—Souvestre.  
Olney's University Algebra.  
Drawing.

### SECOND TERM.

- Elective.* { *German*—Schiller's Historical Prose.  
*French*—Souvestre.  
Plane and Solid Geometry, Olney.  
English Literature.

### THIRD TERM.

- Elective.* { *German*—Nathan der Weise.  
*French*—Moliere.  
Trigonometry, Olney.

## SOPHOMORE YEAR.

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### FIRST TERM.

- Elective.* { *German*—Wilhelm Tell.  
*French*—Moliere.  
Olney's General Geometry and Calculus.  
Preparation of Themes.

## SECOND TERM.

- Elective.* { *German*—Goethe's Egmont.  
              { *French*—Racine.  
              Olney's General Geometry and Calculus.  
              Chemistry and Laboratory Practice.

## THIRD TERM.

- Elective.* { *German*—Goethe's Tasso.  
              { *French*—Corneille.  
              Chemistry and Laboratory Practice.  
              Surveying.

## JUNIOR YEAR.

## FIRST TERM.

- Elective.* { *German*.  
              { *French*.  
              Political Economy.  
              Physics.  
              Chemistry and Laboratory Practice.

## SECOND TERM.

- Elective.* { *German*.  
              { *French*.  
              Astronomy.  
              Chemistry and Laboratory Practice.

## THIRD TERM.

- Elective.* { *German*.  
              { *French*.  
              Mineralogy and Assaying.  
              Rhetoric.

## SENIOR YEAR.

### FIRST TERM.

Economic Geology.  
Chemistry and Metallurgy.  
Political Economy.

*Elective.* { *French.*  
              { *German.*  
              { English Literature.  
              { History.

### SECOND TERM.

Mental Science.  
Mining Engineering.

*Elective.* { Logic.  
              { International Law.  
              { *French.*  
              { *German.*

### THIRD TERM.

Moral Science.

*Elective.* { Zoology.  
              { Astronomy.  
              { American Literature.  
              { Logic.  
              { *French.*  
              { *German.*

NOTE—Arrangements will be made for students in the Scientific Course who desire to continue Latin.





## Normal Department.

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The design of this school is to prepare teachers for the work of conducting the schools of the State.

Its aim is more specially to impart thorough instruction in the branches taught in the common schools, and in the best methods of teaching those branches.

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### ADMISSION.

Applicants for admission must be at least sixteen years of age, and must declare that it is their intention to become teachers.

They must also pass a satisfactory examination in reading, writing, spelling, arithmetic to percentage, the geography of North America and Europe, especially of the United States, and grammar through etymology.

Especial attention will be paid to the candidate's knowledge of the fundamental rules of arithmetic, and the ability to perform operations in them rapidly and correctly. A practical familiarity with the common abbreviations, marks of punctuation, and the common rules for the use of capital letters, will be expected.

It is desirable that each one bring a letter from his last teacher, giving an idea of his application to study, efficiency in work, and probable adaptation to the business of teaching.

The examination for admission will be held on the first day of the term, at which time it is desirable that all candidates be present. Pupils will be admitted during the term, if prepared to enter classes already organized.

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## COURSE OF STUDY.

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### FIRST YEAR.

FIRST TERM—Arithmetic, Geography, Map Drawing and Reading.

SECOND TERM—Arithmetic, English Grammar, and History of the United States.

THIRD TERM—Algebra, English Grammar, and History of the United States.

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### SECOND YEAR.

FIRST TERM—Algebra, Botany, and Physical Geography.

SECOND TERM—Physiology, Elementary Physics and Mental Philosophy.

THIRD TERM—Civil Government, School Law and English History.

Lectures on methods will be given once a week during the second year.

Students are advised to bring such school books as they have.





## Location.

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The University has a beautiful situation upon the high grounds on the south side of Boulder Creek, and overlooks the city of Boulder.

The scenery here is not surpassed if it is equaled in the whole Rocky Mountain region.

To the west are seen the boldest and highest foot-hills of the Range, and far away the ever snow-capped summit of Arapahoe peak.

On the south rise the beautiful *mesas* or table-lands; while to the north and east as far as the eye can reach extend the fertile plains, dotted with lakes, and at this season, (June) beautifully green with the crops of cereals.

The tourist may find in Boulder, South Boulder, and Bear Cañons, and on the road to Sunshine and Gold Hill, scenery as grand, varied and beautiful as any in the State, or even in Switzerland.

The climate is all that could be desired; neither excessively warm in summer nor cold in winter, and seems particularly favorable to the exercise of the intellectual faculties. To study is a pleasure and not a weariness.

The close proximity of some of the richest mines of the State, and the extensive reduction works where the crude

ore is treated, afford to the student of chemistry and metallurgy rare opportunities for obtaining a practical knowledge of these sciences.

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### LIBRARY.

The Buckingham Library, which has been carefully selected with reference to the scientific studies required in the several practical courses, includes over 1,500 volumes. The library hall is fitted up as a reading-room, and is open throughout the day for study, reading, and consultation of authorities. It is well provided with American, English, French and German papers and periodicals, embracing some of the most important scientific publications.

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The following is a list of periodicals regularly received:

Edinburg Review.  
London Quarterly.  
The Nation.  
Educational Weekly.  
North American Review.  
British Quarterly Review.  
Revue des Deux Mondes, Paris.  
Deutsche Rundschau.  
Atlantic Monthly.  
International Review.  
New England Journal of Education.  
Littell's Living Age.  
American Chemist.  
American Journal of Science.  
Popular Science Monthly.  
Nature, London.

In addition to these are several local publications.

## CHEMICAL LABORATORY.

The Chemical Laboratory is fitted up with the most improved working tables, furnaces, etc., and is supplied with balances and all the necessary apparatus for the use of students pursuing the Scientific Course.

Large additions will soon be made to the apparatus, making the Laboratory one of the best in the country, and will afford the student of Chemistry and Metallurgy rare facilities for pursuing his work.

## MINERALOGICAL CABINET.

Prof. J. Alden Smith, State Geologist, has presented to the University his magnificent cabinet of minerals, one of the largest and most valuable in the United States. This will be placed in the museum of the University, as soon as the cases for its reception are completed.

## EXPENSES.

The tuition is fifteen dollars a year in all the University Classes, to citizens of the State. The Matriculation fee, which entitles the student to membership in the University until he completes his studies, ten dollars.

The following are the estimated *maximum* and *minimum* annual expenses, exclusive of books and clothing, of a residence of thirty-nine weeks.

	MINIMUM.	MAXIMUM.
Term Fees, .....	\$ 15 00	\$ 15 00
Board,.....	78 00	190 00
Fuel and Light,.....	10 00	15 00
Washing, .....	15 00	30 00
	<hr/>	<hr/>
	\$118 00	\$250 00

## HISTORY.

Boulder has, perhaps, some just reasons for claiming the location of the State University, among which is the fact

that the first building dedicated to educational purposes in the Territory of Colorado was located near the present site of the University.

The first Territorial Legislature seems to have recognized this fact, and on the 7th of November, 1861, passed an Act locating the University of Colorado at Boulder.

Except some unimportant legislation in 1868 no further action was taken until January, 1870, when an Act was passed regarding the Board of Trustees, and providing for an organization.

The first meeting of the Board was held in Boulder, on the 2d day of January, 1870; an organization was effected, and a site selected for a University building.

About a year later the ground upon which the building now stands, embracing fifty-two acres, was donated by three public-spirited citizens of the town, and other liberal donations were made.

In 1874 an appropriation of fifteen thousand dollars was voted by the Territorial Legislature, upon condition that the people of Boulder should give an equal amount in cash. This condition was promptly complied with, and on the 20th day of September, 1875, the corner-stone of the present University building was laid, and the building erected during the year following. In the meantime Congress in the "Enabling Act" for the admission of Colorado into the Union, approved March 3d, 1875, set apart and reserved for the use and support of the State University, seventy-two sections of land, to be selected and approved as provided by the Act, and to be appropriated and applied as the Legislature of the State might prescribe, for the purpose named and for no other.

These lands, which have been selected, are as valuable as any in the State.

The Constitution of Colorado, which was framed in conformity with the above Act of Congress, provided that up-



on its adoption, the University at Boulder should become an Institution of the State, thus entitling it to the lands appropriated by the "Enabling Act," and further made provision for the management and control of the University; and the first General Assembly of the State made provision for its permanent support by the levy of a tax upon the property of the State, for that purpose, also for a permanent fund to be created by the sale of lands donated by the United States.

With the above provisions for its support the University was publicly opened on the 5th day of September, 1877.

Both sexes are admitted upon the same terms, and with the same privileges.





## Calendar for 1879-80.

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First Term begins . . . . . September 10th, 1879.  
First Term ends . . . . . December 24th, 1879.  
Second Term begins . . . . . January 6th, 1880.  
Second Term ends . . . . . March 25th, 1880.  
Third Term begins . . . . . March 31st, 1880.  
Third Term ends . . . . . June 11th, 1880.

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Examinations for Admission, September 9th, 1879 and  
June 12th, 1880.





# ◀CATALOGUE▶



CIRCULAR

OF THE

University of Colorado.

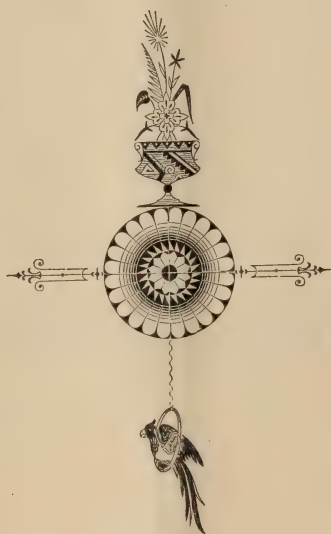


◀1881---1882.▶



BOULDER:  
DAILY HERALD STEAM PRINT.

1882.



# Board of Regents.



TERM EXPIRES 1882.

GEORGE TRITCH, . . . . . DENVER.

JAMES RICE, . . . . . PUEBLO.

TERM EXPIRES 1884.

JUNIUS BERKLEY, . . . . . BOULDER.

H. M. HALE, . . . . . CENTRAL.

TERM EXPIRES 1886.

MAX. HERMAN, . . . . . BOULDER.

J. C. SHATTUCK, . . . . . GREELEY.

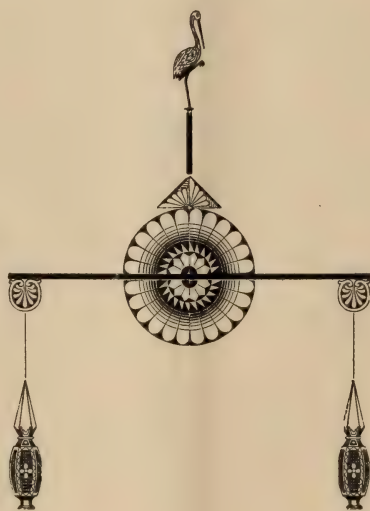
## OFFICERS OF THE BOARD.



J. A. SEWALL, . . . . . PRESIDENT.

H. M. HALE, . . . . . SECRETARY.

CHAS. BUCKINGHAM, . . . . . TREASURER.





## Faculty.

---

JOSEPH A. SEWALL, M. D., LL. D.,  
President and Professor of Chemistry and Metallurgy.

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ISAAC C. DENNETT, A. M.,  
Professor of Latin and Greek.

---

T. R. PALMER, A. M.,  
Professor of Mental and Moral Science.

---

PAUL H. HANUS, B. S.,  
Professor of Mathematics.

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MARY RIPPON,  
Professor of German and French.

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J. I. McFARLAND,  
Assistant Preparatory Department.

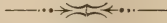
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A. M. SEWALL,  
Assistant Normal Department.

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E. M. PEASE,  
Librarian and Assistant in Laboratory.

# UNIVERSITY OF COLORADO.



## THE UNIVERSITY AND THE STATE.

The University of Colorado is a part of the public educational system of the State. The governing body of the Institution is a Board of Regents, elected by popular vote for terms of six years, as provided in the constitution of the State. In accordance with the law of the State, the University aims to complete and crown the work that is begun in the public schools, by furnishing ample facilities for liberal education in Literature, Science, and the Arts. Through the aid that has been received from the United States and from the State, it is enabled to offer its privileges, without charge for tuition, to all persons of either sex, who are qualified for admission.

### TERMS OF ADMISSION.

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1.—Applicants for Admission to Preparatory School must pass an examination in English Grammar, Geography, History of the United States, Arithmetic, Reading and Orthography.

2.—Candidates for admission to University Courses will be examined in the studies of the Preparatory Course, or their equivalents. See page 21.

3.—Those proposing to enter any course at an advanced standing, will be examined in such studies of the course as may have been pursued previous to their admission.

# Preparatory Scientific Course.

## FIRST YEAR.

### FIRST TERM.

Algebra . . . . .	16 weeks
The English Sentence . . . . .	16 weeks
Latin Grammar and Reader . . . . .	16 weeks

### SECOND TERM.

Algebra . . . . .	12 weeks
Civil Government . . . . .	12 weeks
Latin Grammar and Reader . . . . .	12 weeks

### THIRD TERM.

Algebra . . . . .	10 weeks
Physiology . . . . .	10 weeks
Latin Grammar and Reader . . . . .	10 weeks



## SECOND YEAR.

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### FIRST TERM.

Elementary Projection Drawing . . . . .	16 weeks
Theoretical Arithmetic . . . . .	16 weeks
Outlines of History . . . . .	16 weeks

### SECOND TERM.

Elementary Physics . . . . .	12 weeks
Zoology . . . . .	12 weeks
Rhetoric and Composition . . . . .	12 weeks

### THIRD TERM.

Book Keeping . . . . .	10 weeks
Botany . . . . .	10 weeks
Physical Geography . . . . .	10 weeks

English Essays throughout the year.

## THIRD YEAR.

## FIRST TERM.

German, or French, . . . . .	16 weeks
Geometry . . . . .	16 weeks
Geology . . . . .	16 weeks

## SECOND TERM.

German, or French, . . . . .	12 weeks
Astronomy, . . . . .	12 weeks
Geometry, . . . . .	12 weeks

## THIRD TERM.

German, or French, . . . . .	10 weeks
English Literature, . . . . .	10 weeks
Geometry, or Chemistry, . . . . .	10 weeks

Preparation and delivery of original speeches throughout the year.

# Preparatory Latin Scientific Course

## FIRST YEAR.

### FIRST TERM.

Latin Grammar and Reader . . . . .	16 weeks
Algebra . . . . .	16 weeks
English Sentence . . . . .	16 weeks

### SECOND TERM.

Latin Grammar and Reader . . . . .	12 weeks
Algebra . . . . .	12 weeks
Civil Government . . . . .	12 weeks

### THIRD TERM.

Latin Grammar and Reader . . . . .	10 weeks
Algebra . . . . .	10 weeks
Physiology . . . . .	10 weeks

## SECOND YEAR.

## FIRST TERM.

Cæsar . . . . .	16 weeks
German or French . . . . .	16 weeks
Theoretical Arithmetic . . . . .	16 weeks

## SECOND TERM.

Cicero . . . . .	12 weeks
German or French . . . . .	12 weeks
Physics . . . . .	12 weeks

## THIRD TERM.

Cicero . . . . .	10 weeks
German or French . . . . .	10 weeks
Physical Geography or Botany . . . . .	10 weeks

Pupils electing German instead of French, will continue German throughout the Preparatory Course.

## THIRD YEAR.

## FIRST TERM.

Virgil . . . . .	16 weeks
Geometry . . . . .	16 weeks
German or French . . . . .	16 weeks

## SECOND TERM.

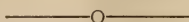
Virgil . . . . .	12 weeks
Geometry . . . . .	12 week
German or French . . . . .	12 weeks

## THIRD TERM.

Virgil . . . . .	10 weeks
Chemistry . . . . .	10 weeks
German or French . . . . .	10 weeks



# Preparatory Classical Course.



## FIRST YEAR.



### FIRST TERM.

Latin Grammar and Reader . . . . .	16 weeks
Algebra . . . . .	16 weeks
The English Sentence . . . . .	16 weeks

### SECOND TERM.

Latin Grammar and Reader . . . . .	12 weeks
Algebra . . . . .	12 weeks
First Lessons in Greek . . . . .	12 weeks

### THIRD TERM.

Latin Grammar and Reader . . . . .	10 weeks
Algebra . . . . .	10 weeks
First Lessons in Greek . . . . .	10 weeks

Latin composition throughout the course.

## SECOND YEAR.

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### FIRST TERM.

Cæsar . . . . .	16 weeks
Greek Grammar and Lessons . . . . .	16 weeks
Theoretical Arithmetic . . . . .	16 weeks
Roman History throughout the year.	

### SECOND TERM.

Cicero . . . . .	12 weeks
Anabasis . . . . .	12 weeks
Physics . . . . .	12 weeks

### THIRD TERM.

Cicero . . . . .	10 weeks
Anabasis . . . . .	10 weeks
Botany or Physical Geography . . . . .	10 weeks
Greek composition throughout the course.	
English Essays throughout the year.	

## THIRD YEAR.

## FIRST TERM.

Aeneid of Virgil . . . . .	16 weeks
Anabasis . . . . .	16 weeks
Geometry . . . . .	16 weeks

## SECOND TERM.

Aeneid of Virgil . . . . .	12 weeks
Homer's Iliad . . . . .	12 weeks
Geometry . . . . .	12 weeks

## THIRD TERM.

Aeneid of Virgil . . . . .	10 weeks
Chemistry . . . . .	10 weeks
Homer's Iliad . . . . .	10 weeks
Optional--Physiology	

Preparation and delivery of original speeches throughout the year.

## I.—SCIENTIFIC COURSE.

Candidates for this course will be examined in :

1. LATIN.—Harkness' Latin Grammar and Jones' Latin Lessons.

2. GERMAN.—The principles of German Grammar, the translation of English into German (Whitney's or Otto's German Grammar preferred.)

3. FRENCH.—Otto's French Grammar, including the reading lessons.

4. ENGLISH LANGUAGE.—Same as Classical Course.

5. MATHEMATICS. — *Arithmetic*, — Fundamental Rules Fractions, Denominate Numbers, Percentage, Proportion.

*Algebra*.—(Olney's Complete School Algebra.) Fundamental Rules, Fractions, Simple Equations, Elimination, Involution and Evolution, Calculus of Radicals, Quadratic Equations, Ratio, Proportion, and the Progressions.

*Geometry*.—(Olney.)—To Art. 532, that is plane and solid Geometry, as far as the sphere.

6. GEOGRAPHY.—Same as Classical Course, omitting Ancient Geography.

7. HISTORY.—Outlines of General History, (Swinton's or Anderson's Manual.)

8. PHYSICS.—Elements of Natural Philosophy, (Cooley's "Text Book of Natural Philosophy.")

9. BOTANY.—First twenty-seven chapters of Gray's Lessons.

10. ZOOLOGY.—Elements of Zoology. (Morse's "First Book of Zoology.")

11. PHYSIOLOGY.—Huxley, Youman, or Dalton.

12. GEOMETRICAL DRAWING.—(Warren's Drafting Instruments.)

Real equivalents to these requirements will be accepted.

## II.—CLASSICAL COURSE.

Candidates for admission to the Classical Course will be required to pass a satisfactory examination in the following subjects :

1. LATIN.—*Latin Grammar*.—Harkness' or Allen & Greenough's.

2. *Prose Composition*.—Jones' or Harkness' Introduction to Latin Composition as far as Part III.

3. *Reading*.—Cæsar, Gallic War, Books I–III ; Cicero, six orations, and the Aeneid, Books I–VIII.

4. GREEK.—*Grammar*.—Hadley's, or Goodwin's ; *proficiency in the etymology is required*

5. *Prose Composition*.—White's Lessons.

6. *Reading*.—Xenophon's Anabasis, Books I–IV ; and Homer's Iliad, Books I and II. Greek is pronounced according to the accents, and with the so-called continental sounds of the vowels and diphthongs.

7. MATHEMATICS.—Same as in Scientific Course.

8. *Physics*.—Same as in Scientific Course.

9.—ENGLISH LANGUAGE.—Each candidate will be required to write an essay of not less than three hundred words, in *correct* English, on any subject he may choose.

10. GEOGRAPHY.—*Physical Geography* ; The Political Geography of Europe and the United States, and sufficient Ancient Geography to locate and describe the principal places mentioned in the Greek and Latin required for admission.

11. HISTORY.—In Grecian History, Pennell's History of Greece ; in Roman History, Pennell's History of Rome ; and outline of United States History.



### III.—LATIN AND SCIENTIFIC COURSE.

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Candidates for admission to the Latin and Scientific course will be examined in—

1. LATIN—Same as Classical Course.
2. GERMAN—The principles of German Grammar, the Translation of English into German, (Whitney's or Otto's German Grammar preferred,) and an amount of reading equivalent to seventy-five pages of Evans' or Otto's German Reader, and one of Schiller's plays. An equivalent of French will be accepted for the German.

The remaining requirements are the same as for the Scientific Course omitting Drawing.

## Special Courses of Study.

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Special students, that is, students not candidates for graduation, may be admitted, but only by vote of the Faculty.

For a partial course, the fees vary in amount according to the nature of the course, but for a special course in Qualitative Chemistry, or for a special course in Assaying, the fee is twenty-five dollars.



# UNIVERSITY COURSES OF STUDY.

FRESHMAN YEAR.		SOPHOMORE YEAR.	
1st SEMESTER.	2d SEMESTER.	1st SEMESTER.	2d SEMESTER.
SCIENTIFIC COURSE. Mathematics . . . . . 1 { Elementary Mechanical Drawing . . . . . 4-5 { Chemistry and Laboratory Practice . . . . . 1-5 German or French . . . . . 1 Speeches.	Mathematics Chemistry and Laboratory Practice . . . . . 1 German or French . . . . . 1 Speeches.	Mathematics Chemistry and Laboratory Practice . . . . . 1 German or French . . . . . 1 Speeches.	Mathematics Chemistry and Laboratory Practice . . . . . 1-5 Biology . . . . . 1-2 German or French . . . . . 1 Speeches.
LATIN AND SCIENTIFIC COURSE. Latin . . . . . 1 Mathematics . . . . . 1 German or French . . . . . 1 Speeches.	Latin . . . . . 1 Mathematics . . . . . 1 German or French . . . . . 1 Speeches.	Latin . . . . . 1 Mathematics . . . . . 4-5 { Chemistry or Chemistry . . . . . 1-5 German or French . . . . . 1	Latin . . . . . 1 Mathematics . . . . . 4-5 { Chemistry or Chemistry . . . . . 1-5 German or French . . . . . 1
CLASSICAL COURSE. Greek . . . . . 1 Latin . . . . . 1 Mathematics . . . . . 1 Speeches.	Greek . . . . . 1 Latin . . . . . 1 Mathematics . . . . . 1 Speeches.	Greek . . . . . 1 Latin . . . . . 1 Mathematics . . . . . 1 Speeches.	Greek . . . . . 1 Latin . . . . . 1 Mathematics . . . . . 1 Speeches.

# JUNIOR YEAR.

1ST SEMESTER.

{ Cryptogamic Botany. . . . . 4-5  
 { Anglo Saxon and Early English Literature . . . . . 1-5  
 { Physics . . . . . 1  
 { French or German . . . . . 1  
 { Constitutional Law. (Optional) . . . . . 1-5

{ Physics. . . . . 4-5  
 { Anglo Saxon and Early English Literature . . . . . 1-5  
 { Rhetoric . . . . . 4-5  
 { Constitutional Law . . . . . 1-5  
 { French or German . . . . . 1

2d SEMESTER.

{ Physics . . . . . 2-5  
 { Mineralogy and Assaying . . . . . 3-5  
 { English and American Literature. . . . . 1  
 { French or German . . . . . 1-2  
 { Astronomy . . . . . 2-5  
 { Constitutional Law. (Optional) . . . . . 2-5

{ French or German . . . . . 1  
 { English and American Literature . . . . . 1  
 { History of Civilization . . . . . 2-5  
 { Constitutional Law . . . . . 2-5  
 { Astronomy . . . . . 1-2

# SENIOR YEAR.

1ST SEMESTER.

{ Psychology . . . . . 1  
 { Zoology . . . . . 4-5  
 { Geology . . . . . 1-5  
 { Metallurgy . . . . . 4-5  
 { Political Economy . . . . . 4-5  
 { French or German . . . . . 1  
 { International Law . . . . . 1-5  
 { Logic . . . . . 1-5  
 { Mining Engineering . . . . . 1-5  
 { History—English and American . . . . . 1

{ Psychology . . . . . 1  
 { Geology, Zoology and same as Scientific Course.

2d SEMESTER

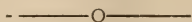
{ Geology . . . . . 1  
 { History of Civilization . . . . . 1-2  
 { Psychology . . . . . 2-5  
 { Logic . . . . . 1  
 { Moral Philosophy . . . . . 1  
 { French or German . . . . . 1  
 { International Law . . . . . 2-5  
 { Mining Engineering . . . . . 2-5  
 { History—English and American . . . . . 1

{ Geology and Same as Scientific Course.

NOTE.—The Academic year is divided into two nearly equal parts, the First and Second Semesters. The number following a topic indicates the whole or the portion of the Semester during which the study is pursued. For particulars relating to above course of study, see "Description of University Courses."



## Description of University Courses.



### I.—PURE MATHEMATICS.

ALGEBRA.—Part III of Olney's University Algebra, *i. e.* The Theory of Indeterminate Co-efficients, Binomial Theorem and its application to the Development of Functions, Theory and Use of Logarithms, Indeterminate Analysis, Theory of Equations, Sturm's Theorem and Horner's Method of solving Higher Equations.

GEOMETRY.—Arts. 380–621 of Olney's Geometry (University Edition); *i. e.* Solid and Spherical Geometry. It is the intention to supplement this course by Exercises in Geometrical Invention, Loci, Maxima and Minima, and an introduction to the Modern Geometry.

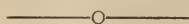
TRIGONOMETRY (Olney).—*Plane Trigonometry*.—Fundamental Relations between the Trigonometrical Functions of an angle (or arc), Relations between the Trigonometrical Functions of different angles (or arcs). Construction and Use of Tables, Solution of Plane Triangles. *Spherical Trigonometry*.—Projection of Spherical Triangles, Solution of Right-angled Spherical Triangles, of Oblique-angled Spherical Triangles.

SOPHOMORES :—GENERAL GEOMETRY (Olney).—Construction of Equations, Production of Equations of Plane Loci, Equations of Higher Plane Curves, Properties of the Conic Sections.

CALCULUS (Olney).—*Differential*—Differentiation of Algebraic Functions, of Trigonometrical and Circular Functions, Successive Differentiation and Differential Co-efficients, McLaurin's and Taylor's Theorems and Theory of Logarithms. *Integral*.—Elementary forms, Rational Fractions, Rationalization of Binomial Differentials, Integration by Parts, Integration by Infinite Series, Definite Integration and the Constants of Integration.

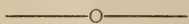
LATIN AND SCIENTIFIC COURSE.—Same as Scientific Course except that in the Second Semester of the Sophomore year Calculus is elective with Chemistry.

CLASSICAL COURSE.—Same as Latin and Scientific.



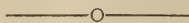
### SURVEYING.

The course embraces both Theory and practice. Students required to submit plots and field-notes of their work.



### DRAWING.

Elementary Mechanical Drawing, comprising Plane Projection Drawing, Elements of Shades and Shadows, and Isometrical Projection.



## II.—THE CLASSICS.

### I. GREEK.

*Freshmen*.—First Semester.—Homer's Iliad, four books; Selections from Herodotus and Thucydides, Greek History, Syntax and Prose Writing.

Second Semester.—Selections from Herodotus and Thucydides, Olynthiacs of Demosthenes, Lectures on the Greek Orators.

*Sophomores*.—First Semester.—Ædipus, Tyrannus of Sophocles, Prometheus of Aeschylus, Lectures on the Greek Drama.

Second Semester.—Prometheus of Aeschylus, Selections from Plato's *Phaedo*, Lectures on the Greek Tragedy.

## 2. LATIN.

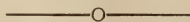
*Freshmen*.—First Semester.—Livy, 21st and 22nd books; Latin Grammar, Latin Prose Composition, Selections from Odes, Epodes and Satires of Horace.

Second Semester.—Horace (*Ars Poetica*) Germania of Tacitus, or Cicero de Senectute; Latin Prose Composition

*Sophomores*.—First Semester.—Juvenal, Terence or Plautus, Roman History.

Second Semester.—Plautus or Terence, Cicero de Immortalitate, Notes on Roman Literature.

In the Latin and Scientific course the Freshman Latin is the same as in the Classical course. But those desiring further instruction in Latin have an opportunity of electing it during the First and Second Semester of the Junior year. Those electing the Junior Latin will receive instruction in—Reading Latin at sight, Original Composition in Latin, Pliny's Letters and Quintilian.



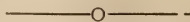
## HISTORY.

In the Classical Course :—

*Freshmen*.—Grecian and Roman History completed. The Authors most used are Smith and Merivale.

*Sophomores*.—In the Sophomore year a course of History, in connection with the Text Book work will be recommended.

In the Latin and Scientific Course, the same as History in the Classical Course.



## III.—MODERN LANGUAGES.

### I. GERMAN.

IN THE CLASSICAL COURSE.—*Juniors*.—Whitney's Grammar, Exercises and Reader; Schiller's *Neffe als Onkel*.

*Seniors.*—Schiller's Wilhelm Tell, Goethe's Hermann und Dorathea, Goethe's Tasso, Grossmann's Literatur.

IN THE LATIN SCIENTIFIC COURSE.—*Freshmen.*—Translations from English into German, Schiller's Maria Stuart, Goethe's Hermann und Dorothea, one of Lessing's plays.

*Sophomores.*—Schiller's Wilhelm Tell, Goethe's Tasso, Goethe's Faust, Part I; Grossman's Literaturgeschichte.

IN THE SCIENTIFIC COURSE.—*Freshmen.*—Same as Juniors in the Classical Course.

*Sophomores.*—Same as Seniors in the Classical Course.

German conversation for all classes.

## 2. FRENCH.

IN THE CLASSICAL COURSE.—*Juniors.*—Otto's Grammar, Exercises and Reader; one French Comedy.

*Seniors.*—Souvestre's Philosophe, Moliere's Misanthrope, Racine's Athalie, Corneille's Horace, Herrig's France Litteraire.

IN THE LATIN SCIENTIFIC COURSE.—*Freshmen.*—Translations from English into French, Souvestre's Philosophe, George Sand's Petite Fadette, three of Moliere's plays.

*Sophomores.*—Racine's Athalie, Corneille's Cid, Horace, Cinna; Moliere's Precieuses Ridicules, French Literature.

IN THE SCIENTIFIC COURSE.—*Freshmen.*—Translations from English into French, and the same reading as the Juniors in the Classical Course.

*Sophomores.*—Same as Seniors in the Classical Course.

French conversation for all classes.

Those beginning German or French in the Junior year will pursue the studies indicated for the Classical Course.



## IV.—LITERATURE, HISTORY AND PHILOSOPHY.

### I. LITERATURE.

The English Sentence and Elementary Rhetoric, with Compositions during the Preparatory Course.



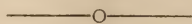
In Collegiate Department Anglo Saxon Grammar and Reader, with extracts from *Piers Ploughman*; the *Ancien Riwe* and *Layamon*, and the Anglo Saxon Formative Element traced through early English Literature; Rhetoric with exercises in Composition; English and American Literature.

## 2. HISTORY.

Elective History.—Students who desire further instruction in History have an opportunity of electing it during the Senior year. A series of historical questions is assigned with references to historical authorities. Each of the questions occupies the attention of the class for one week. Every student is required to read before the class in the course of the semester one thesis and one critique, the thesis being on one of the historical questions and the critique being on a thesis presented by one of the other members of the class. The questions considered during the first semester are on the Constitutional History of England; those during the second are on the Constitutional History of the United States.

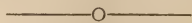
## 3. PHILOSOPHY.

Logic, Psychology and Moral Science, taught by Lectures and Recitations throughout the Senior year.



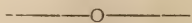
## LAW.

Constitutional and International Law—Lectures and Recitations.



## POLITICAL ECONOMY.

Senior year—Lectures and Recitations.



## V.—SCIENCE.



## I. CHEMISTRY.

GENERAL CHEMISTRY.—Lectures and text-book (Roscoe



Elliott and Storer or Miller). Laboratory work. Experiments verifying facts learned from the text-book.

QUALITATIVE ANALYSIS.—Study of properties of acids and bases in *known* material. Analysis of *Known Materials* as required in identifying and separating compounds. Operations of synthesis, showing action of compounds on each other. Writing of equations for reactions. Oxidizing and Reducing Agents. Analysis of *Unknown Materials*, (*Solids and Solutions*) the examination of one hundred mixtures, each containing from two to fifteen different elements, free or combined.

QUANTITATIVE ANALYSIS.—Determinations of Density. Gravimetric Determinations. Volumetric Determinations. Quantitative Separations. Hydrometry.

ORGANIC ANALYSIS.—Proximate and Ultimate.

ORIGINAL RESEARCH.

## 2. ASSAYING.

BLOW-PIPE: (Qualitative and Quantitative) Assay of the precious metals—Copper and Lead taken in alloy and in ore.

VOLUMETRIC DETERMINATION of Copper, Iron, and other base metals.

Books of Reference in Analytical and Applied Chemistry, Regnault's "Elements of Chemistry," Muspratt's "Chemistry," Fresenius' "Qualitative" and "Quantitative Analysis," Will's "Outlines of Chemical Analysis," Liebig's Complete Works," Storer's "Dictionary of Chemical Solubilities," Schellen's "Spectrum Analysis," Plattner's "Qualitative and Quantitative Analysis with the Blow-pipe," Crookes' Mitchell's "Manuel of Practical Assaying."

## 3. GEOLOGY.

Lectures. Study of specimens. Text-book, Le Conte.

## 4. BOTANY.

PHAENOLOGIC BOTANY.—Analysis and Classification of Flowering Plants. Study of the Orders. Students required to preserve and present written descriptions of at least seventy-five plants.

CRYPTOGAMIC BOTANY.—Study of Ferns, Mosses, Lichens, Liverworts, and Fungi. Use of the Microscope. Drawings and written descriptions required whenever practicable.

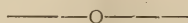
STRUCTURAL AND PHYSIOLOGICAL BOTANY with Sach's "Text-book of Botany," and Gray's work on Structural Botany for reference.

#### 5, PHYSICS.

Text-book and Lectures. Opportunity is given for experimental work in Physics so far as the resources of the University will permit.

#### 6. ASTRONOMY.

Text-book and Lectures. Students have access to star maps, terrestrial and celestial globes, and will be required to use them.



#### CHEMICAL LABORATORY.

The appliances for the theoretical and practical study of Chemistry have been greatly improved and extended during the current year. One-half of an entire story of the building has been devoted to the Chemical Laboratory, Weighing-room and Chemical Store-room.

The Laboratory is *complete*. Four thousand dollars have been expended in making this laboratory equal to the best laboratories of older institutions in the country. It differs from them only in their multiplied apparatus, and not in kind.

For laboratory practice each student has the exclusive use of a table supplied with a complete set of reagents, and the necessary apparatus for experimental work.

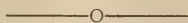
A furnace has been put in for practical assaying.

The Weighing-room adjoining the laboratory is supplied with a Troemner's Assay Balance, Troemner's Ore Scale, and two Becker & Son's Analytical Balances.

Adjoining the laboratory also, is the Chemical Store-room.

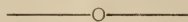
The stock of chemicals from the celebrated house of H. Trommsdorff, in Erfurt, is entirely adequate to the most complete and extended course of study in the department of Chemistry.

Aside from the advantages offered by the laboratory for the study of Metallurgy, the gold and silver mines of Boulder County and the Reduction works of Boulder and the vicinity, offer rare facilities for obtaining a knowledge of the treatment of ores.



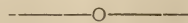
#### MINERALOGICAL CABINET.

Prof. J. Alden Smith, State Geologist, has presented to the University his magnificent cabinet of minerals, one of the largest and most complete in the United States. This will be placed in the museum of the University, as soon as the cases for its reception are completed.



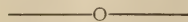
#### CHOICE OF COURSE.

So student will be permitted to change his course or drop any study, except by vote of the Faculty, and then, only at the beginning of a term.



#### ELECTIVES.

The Faculty reserves the right to withdraw the offer of any elective not chosen by five or more students.

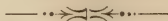


#### DEGREES.

Degrees conferred on graduation :

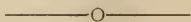
Any student, on completing the Classical Course, will receive the degree of Bachelor of Arts ; on completing either of the other Collegiate Courses, the degree of Bachelor of Science.

## Normal Department.



The design of this school is to prepare teachers for the work of conducting the schools of the State.

Its aim is more specially to impart thorough instruction in the branches taught in the common schools, and the best method of teaching those branches.



### ADMISSION.

Applicants for admission must be at least sixteen years of age, and must declare that it is their intention to become teachers.

They must also pass a satisfactory examination in reading, writing, spelling, arithmetic to precentage, the geography of North America and Europe, especially of the United States, and grammar through etymology.

Especial attention will be paid to the candidates' knowledge of the fundamental rules of arithmetic, and the ability to perform operations in them rapidly and correctly. A practical familiarity with the common abbreviations, marks of punctuation, and the common rules for the use of capital letters, will be expected.

It is desirable that each one bring a letter from his last teacher, giving an idea of his application to study, efficiency in work, and probable adaptation to the business of teaching.

The examination for admission will be held on the first day of the term, at which time it is desirable that all candidates be present. Pupils will be admitted during the term, if prepared to enter classes already organized.



## COURSE OF STUDY.

The Divisions I, II, III, etc., in the following table, are made with reference rather to the studies in charge of different teachers, than to the strictly logical groupings of subjects.

## DIVISION I.

**THEORY AND PRACTICE OF TEACHING.** *Third Term.* This work consists of a series of familiar lectures; these lectures are accompanied by frequent references to standard works on teaching. The pupils take notes of the lectures, and embody their substance in essays, which are carefully examined and criticised. The following are some of the most prominent topics of discussion: 1—**EDUCATION:** What is it? Its relation to Learning; its mode, in relation to the body, the mind, and the conscience. 2—**THE MIND:** Its essential unity; classification of its powers; order of their development; cultivation of the senses, the memory and the reason; 3—**THE TEACHER:** His motives; his preparation; his manners; his habits of dress, action, thought and speech; his health. 4—**THE SCHOOL:** The house and its surrounding, furniture and apparatus; organization of a school; first day's work; classifying; the programme; grading, etc. 5—**SCHOOL MANAGEMENT:** Principles of government; punishments; making rules; the characteristics of a teacher which are essential to good management. 6—**INSTRUCTION:** What is a recitation? Assigning lessons; hearing lessons; use of text-books; exactness and promptness in recitation; helping pupils; methods of questioning, etc.

**PSYCHOLOGY.** *Fourth Term.* Mental Science, as compared with other sciences. Definition and Classification of the Mental Powers. Consciousness. Attention. Conception. Sense-perception. Theories concerning Sense-perception. Opinions of different philosophers on this subject.

**HISTORY OF EDUCATION.** *Seventh Term.* A History of the Culture of different nations, from the earliest times down to the present; also, the Biography of Eminent Educators.

**PHILOSOPHY OF EDUCATION.** *Seventh Term.* This in-



cludes a study of *Rosenkrans's Pedagogics as a system*. The study is made as complete as the brief time will allow.

CONSTITUTION OF THE UNITED STATES. *Eighth Term*. Particular attention is given to the text of the constitution; and the exposition and history, receive all the attention that time will permit. The State Constitution is studied in connection with that of the Nation.

#### DIVISION II.

GRAMMAR. *Second Term*. Etymology. Offices and peculiarities of the Parts of Speech. Critical Parsing of examples given in the text-book or dictated to the class, and of selections from standard writers. Correction of False Syntax. Written Exercises throughout the term, marked with reference to Capitalization, Punctuation, Spelling and Construction, as well as Subject-matter.

*Third Term*. Syntax. Classification of Sentences, and of the Elements of the Sentences. Analysis of Sentences, orally, in writing, and by the use of diagrams. Naming of the Parts of Speech, and construction of each word in the sentence given. Consideration of Abridged Propositions, and of Idiomatic Forms and Constructions. Correction of False Syntax. Written Exercises marked as above.

READING. *First and Second Terms*. Analysis of words according to their Elementary Sounds. Articulation and Pronunciation. Compass and Flexibility of Voice. Stress and Emphasis. Pauses. Inflections. Analysis of Words according to their Derivation and Formation. Analysis of the Thought. Practice in Elocution.

RHETORIC. *Fifth Term*. Diction, including Purity, Propriety, Precision, Clearness, Unity, Strength and Harmony. Rhetorical Figures. Style and its varieties. Original Composition during the term.

LITERARY CRITICISM. *Sixth Term*. Critical examination of the style of some of the best English authors, with reference to the Thought, Diction, Sublimity, Beauty and Rhetorical Figures. Original Composition during the term.

HISTORY AND METHODS OF EDUCATION. *Seventh Term.* The chief educational ideas of the leading nations, ancient and modern.

ENGLISH LITERATURE. *Eighth Term.* Sketches of the leading authors in each department from the time of Chaucer, with critical study of selections from the same.

HAMLET AND THEMES. *Ninth Term.* A critical study of Shakespeare's Play of Hamlet. Orations and Essays.

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DIVISION III.

ARITHMETIC. *First Term.* The Decimal System, including Decimal Fractions, so-called, Factoring, and its application to Common Multiples and Common Divisors. Fractions. Compound Numbers.

*Second Term.* Ratio and Proportion. Percentage, with its application to Loss and Gain, Commission, Insurance, etc. Percentage with Time, including Interest, Discount, Partnership, and Equation of Payments. Exchange (Inland and Foreign). Extraction of Second and Third roots of numbers. Arabic method of Notation, using bases other than 10; applied particularly to Duodecimals.

ALGEBRA. *Fourth Term.* Algebraic Notation. Factoring, with application to Divisors and Multiples. Fractions. Equations of the First Degree. Extraction of the Roots of Algebraic Quantities. Rules deduced for the extraction of the Roots of Numbers. Radicals.

GEOMETRY. *Fifth Term.* Straight Lines, and Surfaces bounded by straight lines. The Circle. Extra Theorems and Problems given for demonstration and solution.

*Sixth Term.* Solids bounded by Planes. The Cylinder. The Cone. Surface and Solidity of Sphere. Plane Trigonometry, with its application to Land Surveying. Leveling. Variation of Magnetic Needle.

PHYSICS. *Seventh Term.* Laws of Motion and Mechanics. Hydrostatics and Hydraulics. Pneumatics. Optics. Electricity and Magnetism.

DRAWING. *First Term.* Inventive and Industrial Drawing, with daily exercises in judging of the length and position of lines. Exercises in dictation given by pupils. Outline Drawing from Models. Shading begun.

*Second Term.* Perspective. Linear. Principles for, and location of points in Parallel and Angular Perspective. Projection of Shadows. Reflection. Problems given throughout the term, involving all principles in Perspective.

#### DIVISION IV.

GEOGRAPHY. *First Term.* General Principles of Geography. Brief study of the countries of Continental Europe, Asia and Africa. Outlines and Maps of the principal countries of Europe and Asia, showing their principal Mountains, Rivers and Cities. More thorough study of Britain, as a model. Brief study of the countries of South America; Outline and Map of the Continent. Astronomical Geography; Latitude and Longitude; Day and Night; the Seasons, etc.

*Second Term.* Outline and Map of North America. Study of the Continent, as a whole. Brief study of British America, Mexico, Central America, and the West Indies. Thorough study of each of the States and Territories. Execution of Map of each of the States, and of each of the principal Cities.

PHYSICAL GEOGRAPHY. *Sixth Term.* Review of the Earth's Form, with a sketch of the Theory of its Origin. Physical life of the Earth; Temperature; Atmospheric and Marine Currents; Rains, and the Effects of Climatic Conditions on Vegetable and Animal Life. Historical View of the Earth; the Relations of its forms and Physical Life to the Development of the Human Race.

UNITED STATES HISTORY. *Third Term.* Voyages, Discoveries, and Indian Tribes. Colonial History, French War, and Revolution. Brief History of the successive Administrations, from Washington's up to the War of Secession in 1861. Founding and Progress of the States in the West and South-west. History of the War of Secession.

ANCIENT HISTORY. *Fourth Term.* Early Asiatic Nations. Grecian History. Roman History.

## DIVISION V.

CHEMISTRY. *Seventh Term.* Names and Properties of Elements; Symbols; Formulæ; Chemical Affinity, etc. Laws of Definite Proportions. Behavior of Chemical Bodies toward each other. Changes of form, Color, Properties. Air, Water, Light—their Relations to Organic Life. Organic Chemistry. Food of Plants.

BOTANY. *Sixth Term.* Structure of Plants, Mode of Growth, etc. Their Relations to each other. Classification. Systems of Analysis, Natural and Linnæan. Written Analysis of at least seventy-five species of native plants, by the Natural System.

ANATOMY AND PHYSIOLOGY. *Fifth Term.* General View of the Structure and Functions of the Human Body. Food and the Digestive Process. The Blood; its Chemical Composition and Vital Properties. Respiration and Nutrition. The Nervous System. The Laws of Hygiene.

ZOOLOGY. *Ninth Term.* Comparison and Description of individual Animals. Methods and principles of Classification. Systematic observation upon the habits and development of animals. General laws of distribution.

Ample provision for instruction in this department will be made for 1882 and 1883.





## Expenses.

The tuition is free in all the University Classes, to citizens of the State. A Matriculation fee of ten dollars will be charged non-residents of the State, which entitles the student to membership in the University until he completes his studies.

The following are the estimated *maximum* and *minimum* annual expenses, exclusive of books and clothing, of a residence of thirty-nine weeks :

	MINIMUM.	MAXIMUM.
Board . . . . .	\$ 78 00	\$ 130 00
Fuel and Light . . . . .	10 00	15 00
Washing . . . . .	15 00	30 00
	<u>\$103 00</u>	<u>\$235 00</u>



## Location.



The University has a beautiful situation upon the high grounds on the South side of Boulder Creek, and overlooks the City of Boulder.

The scenery here is not surpassed, if it is equaled, in the whole Rocky Mountain region.

To the west are seen the boldest and highest foot-hills of the Range, and far away the ever snow-capped summit of Arapahoe peak.

On the south rise the beautiful *mesas* or table-lands; while to the north and east as far as the eye can reach extend the fertile plains, dotted with lakes, and at this season, (June) beautifully green with the crops of cereals.

The tourist may find in Boulder, South Boulder and Bear Canons, and on the road to Sunshine and Gold Hill, scenery as grand, varied, and beautiful as any in the State, or even in Switzerland.

The climate is all that could be desired, neither excessively warm in summer, nor cold in winter, and seems particularly favorable to the exercise of the intellectual faculties.

The close proximity of some of the richest mines of the State, and the extensive reduction works where the crude ore is treated, afford to the student of chemistry and metallurgy rare opportunities for obtaining a practical knowledge of these sciences.

## Library.

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The Buckingham Library, which has been carefully selected with reference to the scientific studies required in the several practical courses includes over 1,500 volumes. The library hall is fitted up as a reading room, and is open throughout the day for study, reading, and consultation of authorities. It is well provided with American, English, French and German papers and periodicals, embracing some of the most important scientific publications.

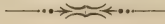
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The following is a list of periodicals regularly received:

Edinburg Review.  
London Quarterly.  
North American Review.  
Revue des Deux Mondes, Paris.  
Deutsche Rundschau.  
Atlantic Monthly.  
International Review.  
New England Journal of Education.  
Littell's Living Age.  
American Journal of Science.  
Popular Science Monthly.  
Nature, London.

In addition to these there are several local publications.

## Seniors.



Henry Alexander Drumm,  
Oscar Eugene Jackson,  
James Irvin McFarland,  
John Julian Mellette,  
Richard Henry Whitely, Jr,  
Harold Davis Thompson.

# College.

NAMES.	TERMS.	RESIDENCE.
Helen Beardsley, . . . . .	15	Boulder
Fred Chase, . . . . .	9	"
Henry Drumm, . . . . .	15	"
Albert Goodell, . . . . .	10	"
Benjamin Holstein, . . . . .	15	"
Oscar E. Jackson, . . . . .	15	"
Frank C Loring, . . . . .	9	"
J. Irvin McFarland, . . . . .	15	"
John J. Mellette, . . . . .	15	"
Ernest M. Pease, . . . . .	15	"
Everett N. Pickel . . . . .	12	"
Judson Rowland, . . . . .	12	"
Timothy Stanton, . . . . .	15	"
Harold D. Thompson, . . . . .	12	"
Burt Tyler . . . . .	15	"
Montford S. Whiteley, . . . . .	9	"
Richard H. Whiteley, Jr. . . . .	12	"
Edward Woolcott . . . . .	12	"

Total, 18.



## Preparatory.



NAMES.	TERMS.	RESIDENCE.
Orfila Allen, . . . . .	1	Boulder
Harris Akin, . . . . .	2	"
George T. Barker, . . . . .	3	"
James Bolton, . . . . .	2	"
Jacob Campbell . . . . .	4	"
Frank Church . . . . .	8	Denver
William Connor . . . . .	9	Lake City
William E. Cornell . . . . .	1	Boulder
Robert L. Culver, . . . . .	7	"
Denester H. Dailey, . . . . .	2	Weld Co.
Edward Drumm, . . . . .	7	Boulder
Edward Duncan, . . . . .	11	St. Vrain
Ernest Goodell, . . . . .	10	Boulder
Jacob Groesbeck . . . . .	3	"
Moses Holstein, . . . . .	7	"
Daniel S. Hooker, . . . . .	6	Nevada
William Housel, . . . . .	4	Valmont



NAMES.	TERMS.	RESIDENCE.
George King, . . . . .	1	Boulder
Thomas Lawson, . . . . .	4	"
Frank Leonard, . . . . .	2	Boulder
Edward Mason, . . . . .	3	Silver Cliff
*Clint Maxwell, . . . . .	3	Boulder
Samuel McClelland, . . . . .	2	Weld Co.
William Mellor, . . . . .	4	Central
S. D. Miner, . . . . .	2	Illinois
Victor Noxon, . . . . .	3	Idaho Springs
Clarence Pease, . . . . .	9	Valmont
Charles Pierce, . . . . .	3	Boulder
Cutler Porter, . . . . .	1	"
George Rice, . . . . .	9	Aspen
John H. Routt, . . . . .	6	Denver
*Lewis Stanton, . . . . .	3	Boulder
Lambert Sternberg, . . . . .	3	"
Irving S. Terry, . . . . .	8	Longmont
*William J. Thomas, . . . . .	7	Central
George C. Vail, . . . . .	7	Greeley
Walter Wheeler, . . . . .	3	Denver
Simon Woodbury, . . . . .	9	Boulder
Allen K. Wright, . . . . .	7	St. Vrain
Meda Allen, . . . . .	1	Boulder
Rainie Adamson, . . . . .	2	Longmont
Hattie Austin, . . . . .	3	Boulder
Lillie Bean, . . . . .	6	"
Josephine Berkley, . . . . .	15	"
Ella Bowler, . . . . .	8	"
Ruth Bowler, . . . . .	7	"
Jane Carnahan, . . . . .	4	Valmont
Carrie Coleman, . . . . .	3	Golden
Florence Cornell, . . . . .	1	Boulder
Ida Drumm, . . . . .	8	"
Mary Duncan, . . . . .	11	St. Vrain
Alice Hungerford, . . . . .	5	Boulder
Amanda Johnson, . . . . .	8	"
Maggie Johnson, . . . . .	3	"
May Loomis, . . . . .	6	"

NAMES.	TERMS.	RESIDENCE.
Emma McDaniels, . . . . .	1	Iowa
Katie More, . . . . .	1	Illinois
Nettie Moore, . . . . .	5	Central
Jennie Porter, . . . . .	3	Boulder
Emma Read, . . . . .	8	"
Olive Ross, . . . . .	2	"
Hessie Scudder, . . . . .	9	"
Carrie Sewall, . . . . .	7	"
Jennie Sewall, . . . . .	3	"
Anna Sherman, . . . . .	2	Ft. Collins
Mattie Snyder, . . . . .	6	Black Hawk
Mattie Sternberg, . . . . .	2	Boulder
Effie Stevens, . . . . .	10	"
Elizabeth Stocks, . . . . .	6	Caribou
Mary Stokes, . . . . .	9	Boulder
Mary Van Valkenburgh, . . . . .	14	Erie
Lula Walker, . . . . .	2	Boulder

Total, 72.

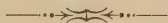


# Normal.

NAMES.	TERMS.	RESIDENCE.
William W. Batchelder, . . . . .	2	Boulder
Merril Brown, . . . . .	2	"
Thomas L. Godlay, . . . . .	1	Illinois
Henry Peabody, . . . . .	3	Boulder
Charles A. Rutter, . . . . .	2	Gold Hill
William J. Shotwell, . . . . .	3	Denver
Edward Walker, . . . . .	3	"
Hattie Batchelder, . . . . .	3	Boulder
Ida Cheney, . . . . .	2	"
Clara Cornell, . . . . .	2	Michigan
Lulie Crawford, . . . . .	2	Steamboat Springs
Orpha Ingersoll, . . . . .	5	Boulder
Clara Logan, . . . . .	1	"
Florence McIntosh, . . . . .	2	"
Minnie Patterson, . . . . .	2	"
Helen Thompson, . . . . .	2	"
Nellie Wright, . . . . .	1	"

Total, 17.

## Special Course.



### CHEMISTRY AND ASSAYING.

NAMES.	RESIDENCE.
Robert Duncan, . . . . .	St. Vrain
Jeremiah McLene, . . . . .	Denver
John M. Pickel, . . . . .	Leadville
George Rice, . . . . .	Aspen
James Hughes, . . . . .	Golden
E. M. Evarts, . . . . .	Boulder
Total, 6.	

### SUMMARY.

College Department, . . . . .	18
Preparatory School, . . . . .	72
Normal School, . . . . .	17
Special, . . . . .	6
Total . . . . .	113

## CALENDAR FOR 1882-83.



### UNIVERSITY.

First Semester begins . . . . . Sept. 5th, 1882  
 Holiday Recess of two weeks, commencing Dec. 22d. 1882  
 Exercises resumed . . . . . Jan. 9th, 1883  
 First Semester closes . . . . . Feb. 2nd, 1883  
 Second Semester begins . . . . . Feb. 5th, 1883  
 Recess of three days . . . . . Feb. 22nd, 1883  
 Second Semester closes . . . . . June 8th, 1883  
 Commencement . . . . . June 13th, 1883

Examinations for admission, June 12th and September 4th, 1883.



### PREPARATORY SCHOOL AND NORMAL DEPARTMENT.

First Term begins . . . . . Sept. 5th, 1882  
 First Term closes . . . . . Dec. 22nd, 1882  
 Holiday Vacation, . . . . Dec. 22nd, 1882, to Jan. 9th, 1883  
 Second Term begins . . . . . Jan. 9th, 1883  
 Recess of three days, commencing . . . . Feb. 22nd, 1883  
 Second Term closes . . . . . March 30th, 1883  
 Third Term begins . . . . . April 2nd, 1883  
 Third Term closes . . . . . June 8th, 1883

Examinations for admission to Preparatory and Normal Department, June 12th and September 4th, 1883.



# University of Colorado.

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CIRCULAR OF INFORMATION.

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1883.

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BOULDER :  
DAILY HERALD STEAM PRINTING HOUSE.

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1883.



## BOARD OF REGENTS.

—o—

TERM EXPIRES 1884.

JUNIUS BERKLEY, . . . . . BOULDER.

H. M. HALE, . . . . . CENTRAL.

TERM EXPIRES 1886.

GEORGE TRITCH, . . . . . DENVER.

MAX. HERMAN, . . . . . BOULDER.

TERM EXPIRES 1888.

JAMES RICE, . . . . . PUEBLO.

L. S. CORNELL, . . . . . BOULDER.

—o—

OFFICERS OF THE BOARD.

J. A. SEWALL, . . . . . PRESIDENT.

L. S. CORNELL, . . . . . SECRETARY.

CHAS. BUCKINGHAM, . . . . . TREASURER.

30716  
30715



# FACULTY.

---

JOSEPH A. SEWALL, M. D., LL. D.,

President and Professor of Chemistry and Metallurgy.

---

ISAAC DENNETT, A. M.,

Professor of Latin and Greek.

---

PAUL H. HANUS, B. S.,

Professor of Mathematics.

---

MARY RIPPON,

Professor of German and French.

---

LIEUT. W. H. HASSON,

(Asst. Engineer U. S. Navy.)

Instructor, Civil Engineering and Mechanics.

---

WINTHROP E. SCARRITT, A. B.,

Instructor, Preparatory Department.

---

J. I. McFARLAND, A. B.,

Instructor, Preparatory Department.

---

EVENS W. THOMAS,

Principal, Normal School.

---

T. W. STANTON,

Librarian and Assistant in Laboratory.



# UNIVERSITY OF COLORADO.

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## THE UNIVERSITY AND THE STATE.

The University of Colorado is a part of the public educational system of the State. The governing body of the Institution is a Board of Regents, elected by popular vote for terms of six years, as provided in the Constitution of the State. In accordance with the law of the State, the University aims to complete and crown the work that is begun in the public schools, by furnishing ample facilities for liberal education in Literature, Science, and the Arts. Through the aid that has been received from the United States and from the State, it is enabled to offer its privileges, without charge for tuition, to all persons of either sex, who are qualified for admission.

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## HISTORY.

The University of Colorado was incorporated by an act of the Territorial Legislature of 1860, and the location fixed at Boulder.

In 1871 three public-spirited citizens donated to the University, 52 acres of land adjoining the city, valued at \$5,000.

In 1874 the Territorial Legislature appropriated \$15,000 and the citizens of Boulder contributed a like sum in cash.

In 1875 Congress set apart and reserved 72 sections of the public lands for the support of the State University.

In 1876 the Constitution of Colorado provided that upon its adoption, the University at Boulder should become an Institution of the State, thus entitling it to the lands appropriated by Congress, and further, made provisions for the management and control of the University; and the first General Assembly of the State made provision for its permanent support by a levy of a tax of one-fifth of a mill upon the property of the State. Also for a fund to be secured by the sale of the lands donated by the United States.

In 1878 the General Assembly appropriated \$7,000 for apparatus, furniture, etc.

In 1883 the General Assembly provided a special fund by a tax levy of one-fifth of a mill for the years 1883 and 1884—which tax will yield about \$40,000.

This fund is to be expended for books, apparatus, furniture, to supply the present building with steam and gas, and for additional buildings.

From the above it is evident that the State has provided liberally for the maintenance of the University, and affords to her sons and daughters facilities for acquiring a thorough education equal to those of any state in the Union.

J. Alden Smith, State Geologist, donated his cabinet of Minerals, one of the best arranged in the United States, the cash value of which is at least \$5,000.

C. G. Buckingham, of Boulder, donated \$2,000 in cash for the purchase of books for the Library.

The Institution was opened September, 1877, with two teachers and forty-four pupils. The last year, eight teachers have been employed, with one hundred and sixteen pupils in attendance; representing thirteen counties of the State and four states.

# GENERAL INFORMATION.

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## COURSES OF STUDY.

It is the leading purpose of the Institution to give thorough instructions in both Preparatory and Collegiate studies, and at the same time to furnish facilities for higher English and business studies to such as are not disposed to take a full College Course. For this purpose seven courses of study have been provided—three Collegiate, three Preparatory and one Normal.

Of the College Courses, the Classical embraces Latin, Greek, the Modern Languages, Mathematics, Natural Science, History, Metaphysics, General Literature and Ethics—with a certain range of selection, according to the taste and aptitude of the student. This requires three years of preparatory study and four years in the course.

The Scientific and the Latin-Scientific Courses embrace all the Sciences and most of the Literary and Philosophical studies of the Classical. The former excludes most of the Latin and all of the Greek; the latter includes all the Latin of the Classical Course, but excludes all the Greek. These require three years of preparation and four years in the course.

The Preparatory Courses are so arranged as to provide for a thorough preparation of students to enter any one of College Courses.

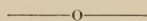
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## ELECTIVE STUDIES.

While all applicants for admission to any of the depart-

ments of the University are advised to take one of the regular courses—ample provisions are made for those who do not desire to pursue a full course, leading to a degree.

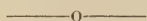
Any applicant who does not wish to take a regular course or one whose circumstances will not permit him, may elect any study or studies embraced in any of the courses and pursue the same for such length of time as he may choose—provided he is prepared for such study or studies, and further that such branches of study are taught at the time. But no classes will be formed *specially* for such students.



#### NORMAL SCHOOL.

The design of this school is to prepare teachers for the work of conducting the schools of the State.

Its aim is more specially to impart thorough instruction in the branches taught in the common schools, and the best methods of teaching these branches. The work of this school also includes a comprehensive study of the Theory of Teaching, History and Philosophy of Education and School Economy.



#### LIBRARY AND READING ROOM.

The College Library now contains nearly five thousand volumes. It is one of the best working Libraries in the West. From the income of the Buckingham fund and the liberality of friends, large additions are annually made.

Provision has been made allowing all students access to the books each day (Sunday and holidays excepted) for the purpose of consultation and reading. The librarian or an assistant is in attendance during library hours to render such aid in the selection of books as may be desired. Students using the library have free access to the shelves, but are not allowed to take the books from the room without being charged.

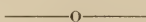
A well furnished Reading Room containing the latest pe-

riodicals, magazines and reviews, is open to all upon the payment of a small sum each term.

The following is a partial list of periodicals regularly received:

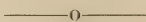
Edinburgh Review.  
 London Quarterly.  
 North American Review.  
 Revue de Deux Mondes, Paris.  
 Deutsche Rundschau.  
 Atlantic Monthly.  
 International Review.  
 New England Journal of Education.  
 Littell's Living Age.  
 American Journal of Science.  
 Popular Science Monthly.  
 Nature, London.

In addition to these there are several local publications.



#### APPARATUS AND CABINET.

The Cabinet contains a valuable collection of minerals and specimens to illustrate the Geology, Natural History and Botany of the North-west. The Herbarium contains over 500 specimens from Colorado, and has been arranged with great care in accordance with Gray's Manual of Botany. A fine collection of corals and shells, and a large and valuable collection of fossils and rocks, illustrating the Geology of Colorado, have recently been added.



#### CHEMICAL LABORATORY.

The University has ample facilities for imparting instruction in the Physical Sciences. The Chemical and Physical Laboratories comprise in their range all needful apparatus



for the practical study of Chemistry, Physics and Astronomy.

The appliances for the Theoretical and Practical study of Chemistry have been greatly improved and extended during the current year. One half of an entire story of the building has been devoted to the Chemical Laboratory, Weighing Room and Chemical Store Room.

The Laboratory is *complete*. Four thousand dollars have been expended in making this Laboratory equal to the best in the country.

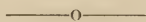
For Laboratory practice, each student has the exclusive use of a table supplied with a complete set of re-agents, and the necessary apparatus for experimental work.

The Weighing Room adjoining the Laboratory, is supplied with a Troemner's Assay Balance, Troemner's Ore Scale, and two Becker & Son's Analytical Balances.

Adjoining the Laboratory also, is the Chemical Store Room.

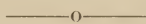
The stock of Chemicals from the celebrated house of H. Trommsdorff, in Erfurt, is entirely adequate to the most complete and extended course of study in the department of Chemistry.

Aside from the advantages offered by the Laboratory for the study of Metallurgy, the gold and silver mines of Boulder County and the reduction works of Boulder and vicinity, offer rare facilities for obtaining a knowledge of the treatment of ores.



#### CHOICE OF COURSE.

No student will be permitted to change his course or drop any study, except by vote of the Faculty, and then only at the beginning of a term or semester.



#### ELECTIVES.

The Faculty reserves the right to withdraw the offer of any elective not chosen by five or more students.

## DEGREES.

**BACHELOR OF ARTS.**—On recommendation of the Faculty, the degree of Bachelor of Arts is conferred by the Board of Regents upon students who have duly completed the Classical Course of study.

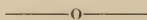
**BACHELOR OF SCIENCE.**—The degree of Bachelor of Science is similarly conferred upon students who have completed the Latin-Scientific or the Scientific Course of study.

**MASTER OF ARTS AND MASTER OF SCIENCE.**—Upon application to the President or Secretary and the payment of five dollars, the degree of Master of Arts or of Master of Science is conferred, in course, on any graduate of three years standing, who sustains a good character and has been engaged in literary pursuits. Applications should be made as early as the day before commencement.

**DIPLOMA OF THE NORMAL SCHOOL.**—All students who complete the course of three years will receive the diploma of the Normal School.

**CERTIFICATES OF GRADUATION.**—Certificates of Graduation will be given to students who complete any one of the Preparatory Courses of study.

**RESIDENT GRADUATES.**—Graduates of this or of any other College desirous of pursuing their studies, may attend the public lectures of the College, and use the library, laboratory, apparatus and scientific collections, subject to such rules as the Faculty may establish. They may also receive private instruction from the Professors in the respective departments.

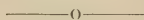


## GOVERNMENT.

The discipline of the institution is administered with firmness and impartiality. But it aims to develop self-control, manliness, womanliness, and a generous public spirit—to induce such a high moral sentiment as will be in itself a powerful governing force in the school community.

## MUSIC.

Arrangements have been made for giving all students an opportunity to acquire a musical education. Special attention will be given to preparing students of the Normal School for teaching this branch in the schools of our State.



## FEES AND EXPENSES.

Every student before entering any Department of the University is required to pay a matriculation fee.

This fee, which for residents of Colorado is five dollars, and, for those who come from any other State ten dollars, is paid but once, and entitles the student to the privileges of permanent membership in the University.

In addition to the matriculation fee, non-residents of Colorado are required to pay an annual fee of fifteen dollars.

The matriculation fee and the annual fee must be paid at the beginning of the college year, and no student will be allowed to enjoy the privileges of the University until he has paid all fees that are due.

The fee for special instruction in music, instrumental (piano) or in vocal culture, ten dollars per term.

Students who pursue Laboratory courses of study are required to pay for the materials and apparatus actually consumed by them.

The Laboratory expenses of students will vary with their prudence and economy.

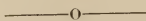
Students obtain board and lodging in private families, for from four to six dollars a week. Room rent varies from one to two dollars a week, for each student.

It is probable that in the near future the Board of Regents will provide accommodations for students, reducing the cost considerably from the above estimate.

The annual expenses for students vary from \$150 to \$300.

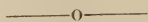
## STUDENTS RECOMMENDED FOR TEACHERS.

It has come to the knowledge of the Faculty that students who have attended the University only a short time or who having attended a longer time have so conducted themselves as not to meet with the approval of the Faculty, are from time to time employed as teachers in the schools of the State. In view of this fact County Superintendents and School Boards are notified that the Faculty will recommend only such students for teachers, as, in its opinion, have made a good record.



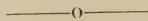
## CLASSIFICATION OF STUDENTS.

Students having recitations in two or more years of the course, or who have not completed the *entire* work required of the class will hereafter be catalogued as members of the lowest class in which they recite, or in which their work is incomplete.



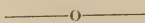
## LITERARY SOCIETIES.

An especial feature of the University is the literary societies which are kept in a flourishing condition, and are proving a valuable means of discipline and culture. The *Phi Alpha Upsilon* is exclusively for college students, and the Philomathean for Preparatory and Normal students.



## PAPER.

The *Portfolio* is a wide-awake college paper published by the students of the University.



## LOCATION.

The University has a beautiful situation upon the high grounds on the South side of Boulder Creek, and overlooks the City of Boulder.

The scenery here is not surpassed, if equaled, in the whole Rocky Mountain region.

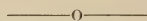
To the west are seen the boldest and highest foot-hills of the Range, and far away the ever snow-capped summit of Arapahoe peak.

On the south rise the beautiful *mesas* or table-lands ; while to the north and east as far as the eye can reach extend the fertile plains, dotted with lakes, and at this season, (June), beautifully green with the crops of cereals.

The tourist may find in Boulder, South Boulder and Bear Canons, and on the road to Sunshine and Gold Hill, scenery as grand, varied, and beautiful as any in the State, or even in Switzerland.

The climate is all that could be desired, neither excessively warm in summer, nor cold in winter, and seems particularly favorable to the exercise of the intellectual faculties.

The close proximity of some of the richest mines of the State, and the extensive reduction works where the crude ore is treated, afford to the student of chemistry and metallurgy rare opportunities for obtaining a practical knowledge of these sciences.



#### TERMS OF ADMISSION.

1.—Applicants for Admission to Preparatory School or Normal School must pass an examination in English Grammar, Geography, History of the United States, Arithmetic, Reading and Orthography.

2.—Candidates for Admission to University Courses will be examined in the studies of the Preparatory Course, or their equivalents. See page 21.

3.—Those proposing to enter any course at an advanced standing, will be examined in such studies of the course as may have been pursued previous to their admission.



# Preparatory Scientific Course.

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## FIRST YEAR.

### FIRST TERM.

Algebra . . . . .	16 weeks
Orthography: English Sentence . . . . .	16 weeks
Latin Grammar and Reader . . . . .	16 weeks

### SECOND TERM.

Algebra . . . . .	12 weeks
Civil Government . . . . .	12 weeks
Latin Grammar and Reader . . . . .	12 weeks

### THIRD TERM.

Algebra . . . . .	10 weeks
Physiology . . . . .	10 weeks
Latin Grammar and Reader . . . . .	10 weeks

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## SECOND YEAR.

### FIRST TERM.

Elementary Projection Drawing . . . . .	16 weeks
Theoretical Arithmetic . . . . .	16 weeks
Outlines of History . . . . .	16 weeks

### SECOND TERM.

Elementary Physics . . . . .	12 weeks
Free Hand Drawing and Perspective . . . . .	12 weeks
Rhetoric and Composition . . . . .	12 weeks

Zoology: Lectures.

### THIRD TERM.

Physics . . . . .	10 weeks
Botany . . . . .	10 weeks
Physical Geography . . . . .	10 weeks
English Essays . . . . .	10 weeks

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## THIRD YEAR.

### FIRST TERM.

German, or French . . . . .	16 weeks
Geometry . . . . .	16 weeks
Geology . . . . .	16 weeks

### SECOND TERM.

German, or French . . . . .	12 weeks
English Literature . . . . .	12 weeks
Geometry . . . . .	12 weeks

### THIRD TERM.

German, or French . . . . .	10 weeks
Book Keeping . . . . .	10 weeks
Chemistry . . . . .	10 weeks

Preparation and delivery of original speeches.

# Preparatory Latin Scientific Course

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## FIRST YEAR.

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### FIRST TERM.

Latin Grammar and Reader . . . . .	16 weeks
Algebra . . . . .	16 weeks
Orthography: English Sentence . . . . .	16 weeks

### SECOND TERM.

Latin Grammar and Reader . . . . .	12 weeks
Algebra . . . . .	12 weeks
Civil Government . . . . .	12 weeks

### THIRD TERM.

Latin Grammar and Reader . . . . .	10 weeks
Algebra . . . . .	10 weeks
Physiology . . . . .	10 weeks

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## SECOND YEAR.

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### FIRST TERM.

Cæsar and Latin Prose . . . . .	16 weeks
German or French . . . . .	16 weeks
Theoretical Arithmetic . . . . .	16 weeks

### SECOND TERM.

Cæsar and Latin Prose . . . . .	12 weeks
German or French . . . . .	12 weeks
Physics . . . . .	12 weeks

### THIRD TERM.

Cicero and Latin Prose . . . . .	10 weeks
German or French . . . . .	10 weeks
Physical Geography or Botany or Physics . . . . .	10 weeks

Pupils electing German instead of French, will continue German throughout the Preparatory Course.

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## THIRD YEAR.

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### FIRST TERM.

Cicero and Latin Prose . . . . .	12 weeks
Virgil . . . . .	4 weeks
Geometry . . . . .	16 weeks
German or French . . . . .	16 weeks

### SECOND TERM.

Virgil . . . . .	12 weeks
Geometry . . . . .	12 weeks
German or French . . . . .	12 weeks

### THIRD TERM.

Virgil . . . . .	10 weeks
Chemistry . . . . .	10 weeks
German or French . . . . .	10 weeks

Preparation and delivery of original speeches.

# Preparatory Classical Course.

## FIRST YEAR.

### FIRST TERM.

Latin Grammar and Reader . . . . .	16 weeks
Algebra . . . . .	16 weeks
Orthography; English Sentence . . . . .	16 weeks

### SECOND TERM.

Latin Grammar and Reader . . . . .	12 weeks
Algebra . . . . .	12 weeks
First Lessons in Greek . . . . .	12 weeks

### THIRD TERM.

Latin Grammar and Reader . . . . .	10 weeks
Algebra . . . . .	10 weeks
First Lessons in Greek . . . . .	10 weeks

## SECOND YEAR.

### FIRST TERM.

Cæsar and Latin Prose . . . . .	16 weeks
Greek Grammar and Lessons . . . . .	16 weeks
Theoretical Arithmetic . . . . .	16 weeks

### SECOND TERM.

Cæsar and Latin Prose . . . . .	12 weeks
Anabasis and Greek Prose . . . . .	12 weeks
Physics . . . . .	12 weeks

### THIRD TERM.

Cicero and Latin Prose . . . . .	10 weeks
Anabasis and Greek Prose . . . . .	10 weeks
Botany or Physical Geography or Physics . . . . .	10 weeks

Roman History throughout the year.

## THIRD YEAR.

### FIRST TERM.

Cicero and Latin Prose . . . . .	12 weeks
Aeneid of Virgil . . . . .	4 weeks
Anabasis and Greek Prose . . . . .	16 weeks
Geometry . . . . .	16 weeks

### SECOND TERM.

Aeneid of Virgil . . . . .	12 weeks
Homer's Iliad . . . . .	12 weeks
Geometry . . . . .	12 weeks

### THIRD TERM.

Aeneid of Virgil . . . . .	10 weeks
Chemistry . . . . .	10 weeks
Homer's Iliad . . . . .	10 weeks
Physiology (Optional)	

Preparation and delivery of original speeches.

UNIVERSITY.





## Requirements for Admission to University Courses.

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### SCIENTIFIC COURSE.

Candidates for this course are examined in :

1. LATIN.—Harkness's Latin Grammar and Jones's Latin Lessons.

2. GERMAN.—The principles of German Grammar, the translation of English into German (Whitney's or Otto's German Grammar preferred.)

3. FRENCH.—Otto's French Grammar, including the reading lessons.

4. ENGLISH LANGUAGE.—Same as Classical Course.

5. MATHEMATICS. — *Arithmetic*. — Fundamental Rules, Fractions, Denominate Numbers, Percentage, Proportion.

*Algebra*.—(Olney's Complete School Algebra.) Fundamental Rules, Fractions, Simple Equations, Elimination, Involution and Evolution, Calculus of Radicals, Quadratic Equations, Ratio, Proportion, and the Progressions.

*Geometry*.—(Olney.)—To Art. 532, that is, Plane and Solid Geometry, as far as the sphere.

6. GEOGRAPHY.—Same as Classical Course, omitting Ancient Geography.

7. HISTORY.—Outlines of General History, (Swinton's or Anderson's Manual.)

8. PHYSICS.—Elements of Natural Philosophy, (Gage's Elements of Physics.)

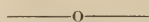
9. BOTANY.—First twenty-seven chapters of Gray's Lessons.

10. ZOOLOGY.—Elements of Zoology. (Morse's "First Book of Zoology.")

11. PHYSIOLOGY.—Hooker, Youman or Dalton.

12 GEOMETRICAL DRAWING.—(Warren's Drafting Instruments.)

Real equivalents to these requirements will be accepted.



### CLASSICAL COURSE.

Candidates for admission to the Classical Course are examined as follows:

#### GREEK.

In White's Lessons.

Four books of Xenophon's Anabasis.

Two books of Homer's Iliad, and Goodwin's or Hadley's Greek Grammar.

Jones's Greek Prose.

#### LATIN.

In Jones's Lessons.

Harkness's Latin Prose Composition to Part III.

Three books of Cæsar.

Six orations of Cicero.

Eight books of Virgil's Aeneid.

NOTE—The Roman pronunciation of Latin has been adopted.

#### MATHEMATICS.

The examination is the same as for the Scientific Course

#### ENGLISH.

Each candidate will be required to write an essay of not less than three hundred words, in correct English, on any subject he may choose.

#### GEOGRAPHY.

The Political geography of Europe and the United States, and sufficient Ancient geography to locate and describe the principal places mentioned in the Greek and Latin required for admission.

Real equivalents to these requirements will be accepted.

## LATIN-SCIENTIFIC COURSE.

Candidates for admission to the Latin-Scientific Course are examined as follows :

## LATIN.

Same as Classical Course.

## GERMAN OR FRENCH.

The principles of German Grammar, the translation of English into German, (Whitney's or Otto's German Grammar preferred,) and an amount of reading equivalent to seventy-five pages of Evans's or Otto's German Reader, and one of Schiller's plays. An equivalent of French will be accepted for the German.

The remaining requirements are the same as for the Scientific Course, omitting Drawing.



SOPHOMORE YEAR.		FRESHMAN YEAR.	
2d SEMESTER.	1st SEMESTER.	2d SEMESTER.	1st SEMESTER.
Mathematics . . . . . 3-5 { Surveying . . . . . 2-5 Chemistry . . . . . 1-2 { Biology . . . . . 1-2 German or French . . . . . 1	Mathematics . . . . . 1 Chemistry and Laboratory Practice . . . . . 1 German or French . . . . . 1	Mathematics . . . . . 1 Chemistry and Laboratory Practice . . . . . 1 German or French . . . . . 1 Speeches.	Mathematics . . . . . 1 Elementary Mechanical Drawing . . . . . 4-5 { Chemistry and Laboratory Practice . . . . . 1-5 German or French . . . . . 1
Latin . . . . . 1 German or French . . . . . 1 { Mathematics or Chemistry . . . . . 1-2 Biology or Surveying or Chemistry . . . . . 1-2	Latin . . . . . 1 { Mathematics . . . . . 4-5 Mathematics or Chemistry . . . . . 1-5 German or French . . . . . 1	Latin . . . . . 1 Mathematics . . . . . 1 German or French . . . . . 1 Speeches.	Latin . . . . . 1 Mathematics . . . . . 1 German or French . . . . . 1 Speeches.
Greek . . . . . 1 Latin . . . . . 1 { Mathematics . . . . . 1-2 Chemistry or Surveying . . . . . 1-2	Greek . . . . . 1 Latin . . . . . 1 { Mathematics . . . . . 4-5 Mathematics or Chemistry . . . . . 1-5	Greek . . . . . 1 Latin . . . . . 1 Mathematics . . . . . 1 Speeches.	Greek . . . . . 1 Latin . . . . . 1 Mathematics . . . . . 1 Speeches.
CLASSICAL COURSE.	LATIN-SCIENTIFIC COURSE.	SCIENTIFIC COURSE.	CLASSICAL COURSE.

# JUNIOR YEAR.

1st SEMESTER.

{ Cryptogamic Botany . . . . . 4-5  
{ Anglo Saxon and Early English Literature . . . . . 1-5  
{ Physics . . . . . 1  
French or German . . . . . 1  
Constitutional Law (Optional) . . . . . 1-5

{ Cryptogamic Botany or Rhetoric or Latin . . . . . 4-5  
{ Anglo Saxon and Early English Literature . . . . . 1-5  
{ Physics . . . . . 4-5  
French or Constitutional Law or Latin . . . . . 1-5  
French or German . . . . . 1

{ Physics . . . . . 4-5  
{ Anglo Saxon and Early English Literature . . . . . 1-5  
{ Rhetoric . . . . . 4-5  
Constitutional Law . . . . . 1-5  
French or German . . . . . 1

2d SEMESTER.

{ Physics . . . . . 2-5  
{ Mineralogy and Assaying . . . . . 3-5  
English and American Literature . . . . . 1  
French or German . . . . . 1  
Astronomy . . . . . 1-2  
Constitutional Law (Optional) . . . . . 2-5

{ Physics or Constitutional Law or Latin . . . . . 2-5  
{ Mineralogy and Assaying or History of Civilization . . . . . 3-5  
English and American Literature . . . . . 1  
Astronomy . . . . . 1-2  
French or German . . . . . 1

French or German . . . . . 1  
English and American Literature . . . . . 1  
History of Civilization . . . . . 2-5  
Constitutional Law . . . . . 2-5  
Astronomy . . . . . 1-2

# SENIOR YEAR.

1st SEMESTER.

Psychology . . . . . 1  
{ Zoology . . . . . 4-5  
Geology . . . . . 1-5  
Metallurgy . . . . . 4-5  
Political Economy . . . . . 4-5  
French or German . . . . . 1  
International Law . . . . . 1-5  
Logic . . . . . 1-5  
Mining Engineering . . . . . 1-5  
History—English and American . . . . . 1

Psychology . . . . . 1  
{ Zoology . . . . . 4-5  
Geology . . . . . 1-4  
Same as Scientific Course.

Psychology . . . . . 1  
ELECTIVE . . . . .  
Geology, Zoology and same as Scientific Course.

2d SEMESTER.

Geology . . . . . 1  
{ History of Civilization . . . . . 1-2  
Psychology . . . . . 2-5  
Logic . . . . . 1  
Moral Philosophy . . . . . 1  
French or German . . . . . 1  
International Law . . . . . 2-5  
Mining Engineering . . . . . 2-5  
Elocution, History—English and American . . . . . 1

Geology . . . . . 1  
ELECTIVE . . . . .  
Same as Scientific Course.

ELECTIVE . . . . .  
Geology and same as Scientific Course

NOTE.—The Academic year is divided into two nearly equal parts, the First and Second Semesters. The number following a topic indicates the whole or the portion of the Semester during which the study is pursued. For particulars relating to above courses of study, see "Description of University Courses."



# Description of University Courses.

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## PURE MATHEMATICS.

IN THE SCIENTIFIC COURSE.—*Freshmen*.—ALGEBRA.—Part III of Olney's University Algebra, *i. e.* The Theory of Indeterminate Co-efficients, Binomial Theorem and its application to the Development of Functions, Theory and Use of Logarithms, Indeterminate Analysis, Theory of Equations, with Sturm's Theorem and Horner's Method of solving Higher Equations.

GEOMETRY.—Arts. 380–621 of Olney's Geometry (University Edition); *i. e.* Solid and Spherical Geometry. It is the intention to supplement this course by Exercises in Geometrical Invention, Loci, Maxima and Minima, and an introduction to the Modern Geometry.

TRIGONOMETRY (Olney).—*Plane Trigonometry*.—Fundamental Relations between the Trigonometrical Functions of an angle, Relations between the Trigonometrical Functions of different angles. Construction and Use of Tables, Solution of Plane Triangles. *Spherical Trigonometry*.—Projection of Spherical Triangles, Solution of Right-angled Spherical Triangles, of Oblique-angled Spherical Triangles.

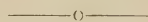
SOPHOMORES:—GENERAL GEOMETRY (Olney).—Construction of Equations, Production of Equations of Plane Loci, Equations of Higher Plane Curves, Properties of the Conic Sections, Transformation of Co-ordinates.

CALCULUS (Olney).—*Differential*.—Differentiation of Algebraic Functions, of Trigonometrical and Circular Functions, Successive Differentiation and Differential Co-efficients, McLaurin's and Taylor's Theorems and Theory of Logarithms, Maxima and Minima. *Integral*.—Elementary forms, Rational Fractions, Rationalization of Binomial Differentials, Integration by Parts, Integration by Infinite Series, Definite Integration and the Constants of Integration.

IN THE LATIN AND SCIENTIFIC COURSE.—Same as Scientific Course, except that in the Second Semester of the Sophomore year Calculus is elective with Chemistry.

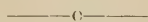
IN THE CLASSICAL COURSE. —Same as Latin-Scientific.

RESIDENT GRADUATES —Post-graduate students in mathematics receive instruction in a more extended course in the Calculus, Determinants, Quaternions, Curve Tracing and Mathematical Reading.



### SURVEYING.

The work embraces both theory and practice. The University possesses all necessary instruments and apparatus for practical work in surveying, levelling, grading, etc. A solar transit and level have just been procured for the use of students. Classes are required to do a fair amount of field work and to submit results.



### ANCIENT LANGUAGES.

#### GREEK.

IN THE CLASSICAL COURSE.—*Freshmen*.—First Semester.—Homer's Iliad four books, Selections from Herodotus and Thucydides, Greek Prose.

Second Semester.—Selections from Herodotus and Thucydides, Olynthiacs of Demosthenes, Greek Prose.

*Sophomores*.—First Semester.—Antigone of Sophocles; Aeschylus (Prometheus); Greek Prose.

Second Semester.—Aeschylus (Prometheus); Selections from Plato's Phaedo, Greek Prose.

#### LECTURES.

During the Freshman year lectures will be given on the Political History of Greece; in the Sophomore year on Greek literature.

#### LATIN.

*Freshmen*.—First Semester.—Livy, 22nd book; Selections from Odes, Epodes and Satires of Horace; Latin Prose Composition.

Second Semester.—Horace (*Ars Poetica*), Germania of Tacitus or Cicero de Senectute, Latin Prose Composition.

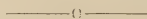
*Sophomores*.—First Semester.—Juvenal, Terence or Plautus, Roman History.

Second Semester.—Plautus or Terence, Cicero de Immortalitate.

#### LECTURES.

In the Freshman year lectures will be given on the Political History of Rome; in the Sophomore year on the History of Roman Literature.

The Latin-Scientific Course, in addition to the Freshman and Sophomore Latin, affords an opportunity to pursue this study during the Junior year. Those electing the Junior-Latin will receive instruction in: Reading Latin at sight, original composition in Latin, Pliny's Letters and Quintilian.



#### MODERN LANGUAGES.

##### GERMAN.

IN THE CLASSICAL COURSE.—*Juniors*.—Whitney's Grammar, Exercises and Reader; Doctor Wespe by Benedix.

*Seniors*.—Schiller's Wilhelm Tell, Goethe's Hermann und Dorothea, Schiller's Jungfrau von Orleans.

IN THE LATIN SCIENTIFIC COURSE.—*Freshmen*.—Translations from English into German, Schiller's Wallenstein, Goethe's Hermann und Dorothea, one of Lessing's plays.

*Sophomores*.—Schiller's Wilhelm Tell, Goethe's Tasso, Goethe's Faust, Part I; Grossmann's Literaturgeschichte.

IN THE SCIENTIFIC COURSE.—*Freshmen*.—Same as Juniors in the Classical Course.

*Sophomores*.—Same as Seniors in the Classical Course.

German conversation for all classes.

##### FRENCH.

IN THE CLASSICAL COURSE.—*Juniors*.—Otto's Grammar, Exercises and Reader; one French Comedy.

*Seniors*.—Souvestre's Philosophe, Moliere's Misanthrope,

Racine's *Athalie*, Corneille's *Horace*, Herrig's *France Littéraire*.

IN THE LATIN SCIENTIFIC COURSE.—*Freshmen*.—Translations from English into French, Souvestre's *Philosophe*, George Sand's *Petite Fadette*, three of Moliere's plays.

*Sophomores*.—Racine's *Athalie*, Corneille's *Cid*, *Horace*, *Cinna*; Moliere's *Precieuses Ridicules*, *French Literature*.

IN THE SCIENTIFIC COURSE.—*Freshmen*.—Translations from English into French, and the same reading as the Juniors in the Classical Course.

*Sophomores*.—Same as Seniors in the Classical Course.

French conversation for all classes.

Those beginning German or French in the Junior year will pursue the studies indicated for the Classical Course.



# Literature, History and Philosophy

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## LITERATURE.

Beginning with the Anglo-Saxon Period, extracts from Beowulf and Caedmon's Song of Creation are studied. In the Transition Period Layamon and the Ancren Riwe are considered. Under the Age of Chaucer, the Canterbury Tales and the Vision of Piers Ploughman receive attention. The Anglo-Saxon formative element in the writings of subsequent authors is carefully noticed.

All the representative writers are considered and representative extracts from the writings of each are read in class and critically discussed, together with the moulding forces of the times. Each student is required to read an entire work of some classic author and at the conclusion of the study present before the class a carefully prepared thesis thereon.

## RHETORIC.

The University is giving increased attention to this subject and now requires a large amount of work to be done in composition. Outline: Punctuation; Diction, Purity, Propriety, Precision; Sentences; Kinds, Rules; Figures; Special Properties, Sublimity, Beauty, Wit, Humor; Versification; Poetry; Epic, Dramatic, Lyric, Elegiac, Pastoral, Didactic. Prose Composition, Letters, Diaries, News, Editorials, Reviews, Essays, Treatises, Travels, History, Fiction, Discourses.

Essays are required of each member of the class illustrating the different styles of composition.

## HISTORY.

Elective History.—Students who desire further instruction in History have an opportunity of electing it during the



Senior year. A series of historical questions are assigned with references to historical authorities. Each of the questions occupies the attention of the class for one week. Every student is required to read before the class in the course of the semester one thesis and one critique, the thesis being on one of the historical questions and the critique being on a thesis presented by one of the other members of the class. The questions considered during the first semester are on the Constitutional History of England; those during the second, are on the Constitutional History of the United States.

#### POLITICAL ECONOMY.

This study is pursued during the first semester of the Senior year.

A series of lectures are given on economic topics. In recitation it is thought better to refer the student to sources of information rather than to teach directly. On the vexed questions of the science, all the leading authorities are examined and the student is urged to weigh arguments carefully and to think independently.

The plan pursued is as follows: History of the Science; Field of the Science; Value; Exchange; Production; Labor; Capital; Land; Cost of Production; Money; Money in the United States; Credit; Foreign Trade; The Mercantile System; American Tariffs; Taxation. Each student, before final examination, is required to prepare a thesis giving the arguments *pro et con* on The Tariff Question.

#### PSYCHOLOGY.

This study is pursued throughout the first semester of the Senior year. A course of twelve lectures is also delivered. The Relations of the Soul to Matter; The Faculties of the Soul; The Human Intellect. Presentation; Consciousness—Natural, Reflective; Sense-Perception; Classes of Sense-Perceptions, The Acquired, Development of, Products of; Activity of Soul in Sense-Perception; Theories of Sense-Perception. Representation; Conditions and Laws; Memory, Phantasy, Imagination. Thought; For-

mation of the Concept, Nature of; Judgment and the Proposition; Reasoning—Deductive, Inductive. Induction, Theories of; Relations—Formal, Mathematical; Causation; Final Cause; Substance and Attribute; Mind and Matter; The Finite and Conditioned; The Infinite and Absolute.

#### MORAL PHILOSOPHY.

The Special Province of Moral Science; Different Theories of the Ultimate Rule in Morals; The Ultimate Rule of Right; The Essential Attributes of the Ultimate Right; General Method; Pure Morality; Positive Authority—Parental, Civil, Divine. Lectures are delivered to the class by the professor in charge.

Logic, Elocution, History of Civilization and International Law are electives of the Senior year. Students are advised to pursue those studies that have the most direct bearing upon their life-work.

#### SPEECHES.

The preparation and delivery of speeches are required of the Freshman class in all the courses.

The works of the following authors are used for text and reference books:

ENGLISH LITERATURE.—Swinton, Baldwin, Wheeler, Kellogg, Royse, Arnold, Smith, Brewer, Richardson, Adams, Taine, Edwards, Marsh, Weisse, Allibone.

RHETORIC.—Hart, Hill, Bain, Kellogg, Abbott, Gilmore, Blair, Carpenter, Day, Haven and Campbell.

POLITICAL ECONOMY.—Perry, Chapin's Wayland, Mill, Roscher, Smith, Walker, Greeley, Bowen, Fawcett, Carey, Byles, De Quincey, Encyclopædia of Political Economy, Gregory, Sullivan and Eldee.

PSYCHOLOGY.—Porter, Haven, Hickok, Bascom, Spencer, Ueberweg, Hamilton, Everett and Bowne.

MORAL PHILOSOPHY.—Hickok, Fairchild, Wayland, Bentham.

LOGIC.—Atwater, Jevon, Coppie, Whateley, Mill.

CIVILIZATION.—Guizot, Green, Knight.

INTERNATIONAL LAW.—Woolsey.

CONSTITUTIONAL LAW.—Townsend, Andrews, Young, Cooley, Pomeroy.

ELOCUTION.—Cumnock, Kidd, Raymond, Hamill, Mathews, Goodrich.

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SCIENCE.

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CHEMISTRY.

GENERAL CHEMISTRY.—Lectures and text-book (Roscoe, Elliott and Storer or Miller). Laboratory work. Experiments verifying facts learned from the text book.

QUALITATIVE ANALYSIS.—Study of properties of acids and basis in *known* material. Analysis of *Known Materials* as required in identifying and separating compounds. Operations of synthesis, showing action of compounds on each other. Writing of equations for reactions. Oxidizing and Reducing Agents. Analysis of *Unknown Materials*, (*Solids and Solutions*) the examination of one hundred mixtures, each containing from two to fifteen different elements, free or combined.

QUANTITATIVE ANALYSIS.—Determinations of Density. Gravimetric Determinations. Volumetric Determinations. Quantitative Separations. Hydrometry.

ORGANIC ANALYSIS.—Proximate and Ultimate.

ORIGINAL RESEARCH.

BLOW-PIPE —(Qualitative and Quantitative) Assay of the precious metals—Copper and Lead taken in alloy and in ore.

VOLUMETRIC DETERMINATION of Copper, Iron and other base metals.

Books of Reference in Analytical and Applied Chemistry, Regnault's "Elements of Chemistry," Muspratt's "Chemistry," Fresenius' "Qualitative" and "Quantitative Analysis," Will's "Outlines of Chemical Analysis," "Liebig's Complete Works," Storer's "Dictionary of Chemical Solubilities," Schellen's "Spectrum Analysis," Plattner's "Qualitative and

Quantitative Analysis with the Blow-pipe," Crookes' Mitchell's "Manual of Practical Assaying."

#### GEOLOGY.

GEOLOGY, TEXT-BOOK AND LECTURES.—The University has a good collection of typical fossils and are constantly making important additions through the collections of professor and students. Text-book work and lectures are introductory to actual work in field Geology and Paleontology. Special attention is given to the historical and economic Geology of Colorado. Coal formations and Metalliferous Deposits are also specially considered.

#### BOTANY.

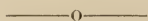
PHAENOGRAMIC BOTANY.—Analysis and Classification of Flowering Plants. Study of the Orders. Students required to preserve and present written descriptions of at least seventy-five plants.

CRYPTOGAMIC BOTANY.—Study of Ferns, Mosses, Lichens, Liverworts, and Fungi. Use of the Microscope. Drawings and written descriptions required whenever practicable.

STRUCTURAL AND PHYSIOLOGICAL BOTANY with Sach's "Text-book of Botany," Gray's and Bessey's works on Structural Botany for reference.

#### PHYSICS.

TEXT-BOOK, LECTURES AND LABORATORY WORK.—The University now has a physical laboratory abundantly supplied with all needful apparatus for the exhaustive study of every department of physics. Apparatus has been added to this laboratory during the current year. Ten hours of laboratory work per week will be required of each student.



#### ASTRONOMY.

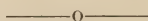
DESCRIPTIVE.—TEXT-BOOK AND LECTURES.—Students have access to star-maps, terrestrial and celestial globes and are required to use them.

THEORETICAL.--Hitherto the University has aimed to teach only descriptive astronomy owing to lack of apparatus. Special opportunities are now offered to students desiring a knowledge of theoretical astronomy, to become familiar with the theory and use of instruments and actual astronomical work.





# Normal School.



## ADMISSION.

Applicants for admission to the Normal School must be at least sixteen years of age, and must declare that it is their intention to become teachers.

They must also pass a satisfactory examination in Reading, Writing, Spelling, Arithmetic, Geography and the Elements of English Grammar.

Special attention will be paid to the candidate's knowledge of the fundamental rules of Arithmetic, and the ability to perform operations in them rapidly and correctly. A practical familiarity with the common abbreviations, marks of punctuation and the common rules for the use of capital letters will be expected.

Each student should bring a letter from his last teacher or from some responsible person, giving an idea of his application to study, efficiency in work and probable adaptation to the business of teaching.

Examinations for admission will be held at the same time as those of candidates for the Preparatory and University Courses. It is desirable that all candidates be present at such times. Pupils will be admitted during any term, provided they shall show themselves, by examination, to be prepared to enter classes already organized.

Any student will be excused from pursuing any study after obtaining a standing of 85 per cent. on an examination in the same.

# Course of Study.

## FIRST YEAR.

### FIRST TERM.

Arithmetic . . . . .	16 weeks
Geography . . . . .	16 weeks
Reading . . . . .	16 weeks

### SECOND TERM.

Arithmetic . . . . .	12 weeks
Geography . . . . .	12 weeks
Reading . . . . .	12 weeks
Grammar . . . . .	12 weeks

### THIRD TERM.

Arithmetic . . . . .	10 weeks
Grammar . . . . .	10 weeks
History of the United States . . . . .	10 weeks
Theory and Practice of Teaching . . . . .	10 weeks

## SECOND YEAR.

### FIRST TERM.

Algebra . . . . .	16 weeks
Orthography; English Sentence . . . . .	16 weeks
Outlines of History . . . . .	16 weeks

### SECOND TERM.

Algebra . . . . .	12 weeks
Rhetoric and Composition . . . . .	12 weeks
Civil Government . . . . .	12 weeks
Free-hand Drawing and Perspective . . . . .	12 weeks

### THIRD TERM.

Algebra . . . . .	10 weeks
Botany . . . . .	10 weeks
Physiology . . . . .	10 weeks
English Essays . . . . .	10 weeks
Physical Geography (Optional) . . . . .	10 weeks

## THIRD YEAR.

### FIRST TERM.

Geometry . . . . .	16 weeks
Psychology . . . . .	16 weeks
History of Education . . . . .	16 weeks
Theoretical Arithmetic . . . . .	16 weeks

### SECOND TERM.

Geometry . . . . .	12 weeks
Zoology: Lectures . . . . .	12 weeks
Elementary Physics . . . . .	12 weeks
English Literature . . . . .	12 weeks

### THIRD TERM.

Chemistry . . . . .	10 weeks
Book-keeping . . . . .	10 weeks
School Law . . . . .	10 weeks
Physics (Optional) . . . . .	10 weeks
Theses . . . . .	10 weeks

Preparation and delivery of original speeches.

## Description of Course.

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### ARITHMETIC.

First Term.—Systems of Notation, uses and principles. Decimal System, including Decimal Fractions, so-called. Factoring, and its application to Common Multiples and Common Divisors. Fractions. Reviews.

Second Term.—Compound Numbers. Ratio and Proportion. Percentage, with its application to Loss and Gain, Commission, Insurance, etc. Percentage with time, including Interest, Discount, Partnership and Equation of Payments. Review of the work of the previous term.

Third Term.—Exchange (Inland and Foreign). Extraction of Roots of numbers. Series. Mensuration. Contractions in Arithmetical operations. Review of previous work in Arithmetic.

### GEOGRAPHY.

First Term.—General principles of Geography. County and State as a basis for further study. Thorough study of each of the States and Territories and of the United States as a whole. Brief study of British America, Mexico, Central America and the West Indies. Study of the Continent as a whole, drawing the outline by means of Parallels and Meridians. Astronomical Geography.

Second Term.—Brief study of the countries of South America. Outline and map of the Continent. Brief study of the countries of Continental Europe, Asia and Africa. The work will consist almost wholly of outlines and maps, showing the principal mountains, rivers and cities. More thorough study of Britain. Considerable attention will be

paid to the climate, soil, productions and articles of commerce of the countries studied. Also the people and their education.

#### READING.

First and Second Terms.—Analysis of words according to their Elementary Sounds. Articulation and Pronunciation. Compass and Flexibility of Voice. Stress and Emphasis. Pauses and Inflections. Analysis of words according to their Derivation and Formation. Analysis of the Thought. Practice in Elocution.

#### GRAMMAR.

Second Term.—Etymology. Offices and peculiarities of the Parts of Speech. Critical parsing of examples given in the text-book or dictated to the class. The subject is studied by means of outlines. The aim is to make the work simple, interesting and practical.

Third Term.—Syntax. Classification of Sentences and of the Elements of the Sentences. Construction of Sentences. Analysis of Sentences, orally and in writing. Naming of the Parts of Speech, and construction of each word in the sentences given. Consideration of Abridged Propositions, and of Idiomatic Forms and Constructions. Correction of False Syntax.

#### UNITED STATES HISTORY.

Third Term.—Voyages, Discoveries and Indian Tribes. Colonial History. Revolutionary Period. Brief History of the successive Administrations up to the present time. War of Secession. Founding and Progress of the States. Literary History. Inventions. Contemporaneous History of England and France.

#### FREE-HAND DRAWING AND PERSPECTIVE.

Fifth Term.—Exercises in Free-hand Drawing at the blackboard. Tests of the ability of the hand to do the bidding of the mind. Eye cultivated by practice in determining lengths of lines. Drawing from Dictation, from Objects and from Nature. Combinations of Straight and Curved lines in forming Designs. Original Designing constitutes

an important part in exercising invention and taste so as to make this important culture a pleasure as well as a duty.

Perspective: Linear. Principles for, and location of points in Parallel and Angular Perspective. Projection of Shadows. Reflection. Problems given throughout the term, involving all principles in Perspective.

#### THEORY AND PRACTICE OF TEACHING.

Third Term.—This work consists of a series of familiar lectures; these lectures are accompanied by frequent references to standard works on teaching. The pupils take notes of the lectures, and embody their substance in essays, which are carefully examined and criticised. The following are some of the most prominent topics of discussion: 1—EDUCATION: What is it? Its relation to Learning; its mode, in relation to the body, the mind, and the conscience. 2—THE MIND: Its essential unity; classification of its powers; order of their development; cultivation of the senses, the memory and the reason. 3—THE TEACHER: His motives; his preparation; his manners; his habits of dress, action, thought and speech; his health. 4—THE SCHOOL: The house and its surrounding, furniture and apparatus; organization of a school; first day's work; classifying; the programme; grading, etc. 5—SCHOOL MANAGEMENT: Principles of government; punishments; making rules; the characteristics of a teacher which are essential to good management. 6—INSTRUCTION: What is a recitation? Assigning lessons; hearing lessons; use of text-books; exactness and promptness in recitation; helping pupils; methods of questioning, etc.

#### HISTORY OF EDUCATION.

Seventh Term.—History of the Culture of different nations, from the earliest times. Illustrations of Peculiar Systems and Standpoints. Education in China, Japan, India, Egypt, Greece, Rome, England, France and Germany. Modern Ideal in Education. Individuals whose influence has been marked in Educational Affairs, Lycurgus, Solon, Pythagoras, Socrates, Plato, Aristotle, Numa Pompilius, Cicero,



Seneca, Quintilian, Bacon, Comenius, Locke, Franke, Rousseau, Pestalozzi, Froebel and others. National Systems of Education (Modern): English, French, German and others. Special study of American System. Relations of Nation and State to Common Education. Discussion upon Educational Topics. Theses.

#### PSYCHOLOGY.

Seventh Term.—Mental Science, as compared with other sciences. Definition and Classification of Mental Powers. Consciousness. Attention. Conception. Sense-Perception. Theories concerning Sense-Perception. Opinions of different philosophers on this subject. This subject will be taught with a view to its practical application in the school-room. In addition to the recitations, lectures will be delivered upon special subjects.

#### SCHOOL LAW.

Officers: Tenure of Office, Duties, Reports, when made and to whom. Elections. Meetings. Books. Teacher's Certificates, Grades, Requisites, Examinations. Funds. Salaries. Institutes. Misdemeanors. Records. Duties of Teachers to Parents, to State.



## Advanced Pedagogical Work.

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Those who follow teaching should be trained for the work. No one has a right to experiment on human minds. There are certain legitimate places to prepare. This School is one of them.

The Graduates of the University of Colorado (other than of the Normal School) are often called upon to teach. No opportunity for special pedagogical training has been given them heretofore. In order that this fact may no longer appear, a year's work has been added to the Normal course, optional to Normal students, of which, it is hoped, students of the University, expecting to teach, will take advantage. The course consists of recitations and lectures during the year upon Philosophy of Education and School Economy.

This extra work of one year is also earnestly recommended to Normal Graduates, as it will fit them for higher and better work: Any such graduate of the Normal School as has also completed this extra year's work may receive the degree, Pe. P., (Principal of Pedagogy). Those holding the above degree, may, after three years of successful teaching, receive the degree, Pe. B., (Bachelor of Pedagogy).

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## Course of Study.

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### FIRST TERM.

Latin . . . . .	16 weeks
Political Economy . . . . .	16 weeks
School Economy . . . . .	16 weeks
University Algebra . . . . .	16 weeks

### SECOND TERM.

Latin . . . . .	12 weeks
Philosophy of Education . . . . .	12 weeks
School Economy . . . . .	12 weeks
Geometry . . . . .	12 weeks

### THIRD TERM.

Latin . . . . .	10 weeks
Logic . . . . .	10 weeks
School Economy . . . . .	10 weeks
Trigonometry . . . . .	10 weeks

## Description of Course.

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### PHILOSOPHY OF EDUCATION.

Second Term.—Education as a Science. Its Form and Limits, Subjectively and Objectively. Ideas of Education. The Problem of Education. Education, General and Special. Work and Play. Habits, their Form, Use and Abuse. Moral Deformity. Corporal Punishment. Education, Physical, Intellectual and Moral. Order and Methods of Presentation of Knowledge. Intuitive, Imaginative and Logical Epochs. Work of the Teacher. Mediocrity, Talent. Genius. Acts of Learning. How Man is Taught. Social, Moral and Religious Culture. Systems of Education, National, State. Gymnasia, Secondary Schools, Colleges and Universities. Technical Schools.

The text as a basis for this study will be Rosenkranz Pedagogics as a System.

### SCHOOL ECONOMY.

Three Terms.—School Sites. School Grounds, their arrangement. School Grades, Studies, Furniture, Apparatus and Records. Organization of Schools. Study: objects, modes of, proper and improper incentives to. Recitations, their objects, methods of conducting them. Exercise. School Ethics. Rewards and Punishments. Preventing and correcting disorder. School Administration. Teacher as Master. Teacher's Motives, Preparation, Duties and Life. The agencies by which an education can be obtained. Methods of Instruction. Teaching the Alphabet. The Word Method. The Phonic Method. Instruction in Number. Illustrations. Grube's Method. Object Lessons, their Value and Method. The Kindergarten. Methods of teaching Arithmetic, Algebra, Geometry, English Grammar, United States History, Geography, Map Drawing, Penmanship and Reading. Theses on assigned subjects. Essays on any lectures that may be delivered. Frequent use of Educational reference books encouraged.

## ANNOUNCEMENTS FOR 1883-84.

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### COLLEGE.

First Semester begins . . . . .	Sept. 5th, 1883
Holiday Recess of two weeks, commencing . . . .	Dec. 22d, 1883
Exercises resumed . . . . .	Jan. 2nd, 1884
First Semester closes . . . . .	Feb. 1st, 1884
Second Semester begins . . . . .	Feb. 4th, 1884
Recess of one day . . . . .	Feb. 22d, 1884
Recess of one week, commencing . . . . .	March 29th, 1884
Second Semester closes . . . . .	June 6th, 1884
Commencement . . . . .	June 11th, 1884

Examinations for admission, June 9th and Sept 4th, 1883.

### NORMAL DEPARTMENT AND PREPARATORY SCHOOL.

First Term begins . . . . .	Sept. 5th, 1883
First Term closes . . . . .	Dec. 22d, 1883
Holiday vacation . . . . .	Dec. 22d, 1883, to Jan. 2d, 1884
Second Term begins . . . . .	Jan. 2d, 1884
Recess of one day . . . . .	Feb. 22d, 1884
Second Term closes . . . . .	March 28th, 1884
Recess of one week, commencing . . . . .	March 29th, 1884
Third Term begins . . . . .	April 7th, 1884
Third Term closes . . . . .	June 6th, 1884
Commencement . . . . .	June 10th, 1884

Examinations for admission June 9th and Sept. 4th, 1883.

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# UNIVERSITY OF COLORADO.

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Catalogue and Circular of Information.

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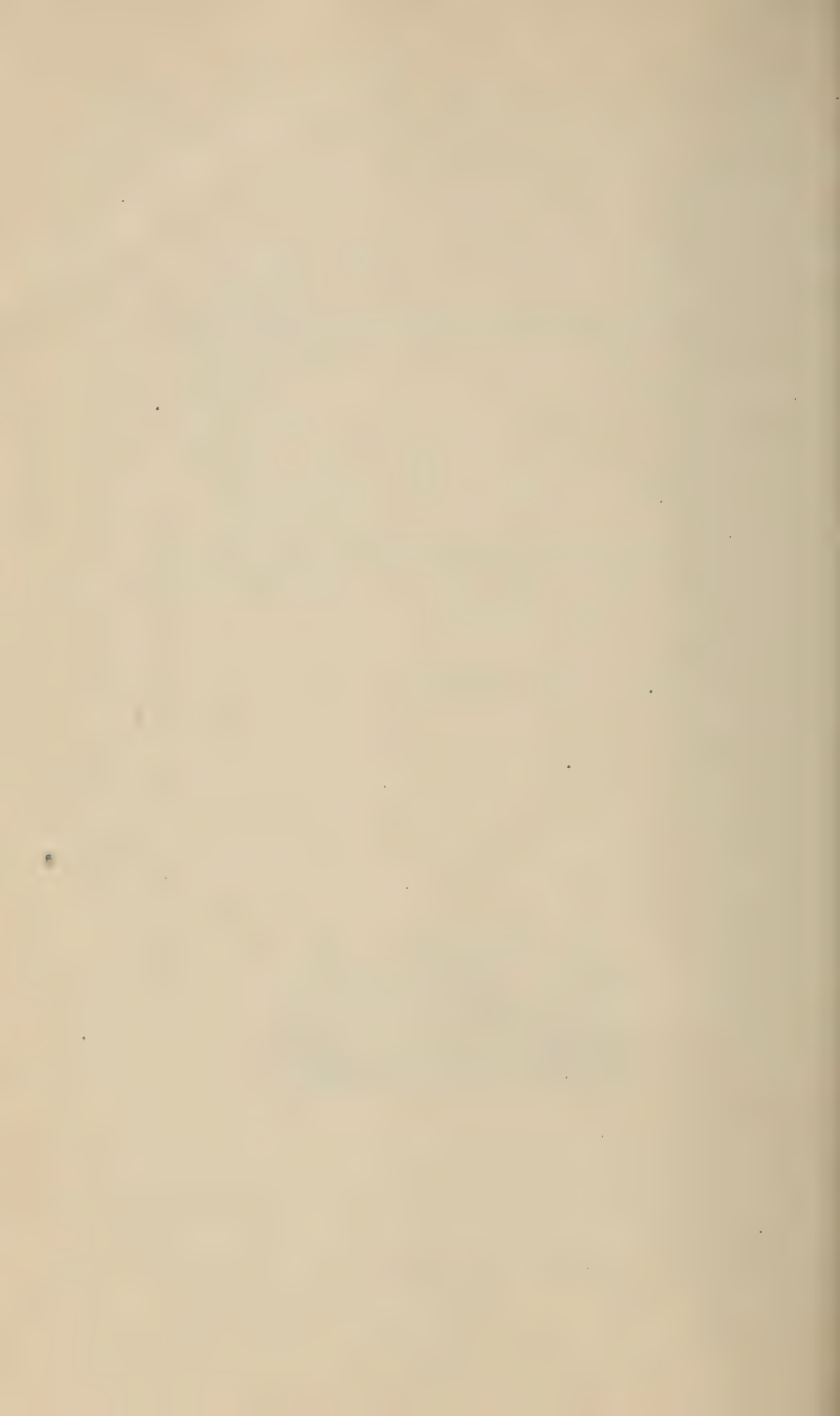
1883-84.

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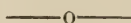


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DENVER, COLORADO :  
DAILY EVENING TIMES STEAM PRINT.  
1884.



# BOARD OF REGENTS.



TERM EXPIRES 1884.

JUNIUS BERKLEY . . . . . BOULDER.

H. M. HALE . . . . . CENTRAL.

TERM EXPIRES 1886.

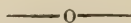
GEORGE TRITCH . . . . . DENVER.

MAX. HERMAN . . . . . LEADVILLE.

TERM EXPIRES 1888.

JAMES RICE . . . . . PUEBLO.

L. S. CORNELL . . . . . DEL NORTE.



OFFICERS OF THE BOARD.

J. A. SEWALL . . . . . PRESIDENT.

L. S. CORNELL . . . . . SECRETARY.

CHAS. BUCKINGHAM . . . . . TREASURER.





# FACULTY.

---

JOSEPH A. SEWALL, M. D., LL. D.,  
President and Professor of Chemistry and Metallurgy.

---

ISAAC DENNETT, A. M.,  
Professor of Latin and Greek.

---

PAUL H. HANUS, B. S.,  
Professor of Mathematics.

---

\*MARY RIPPON,  
Professor of German and French.

---

JAMES W. BELL, Ph. D.,  
Acting Professor of Modern Languages.

---

W. F. C. HASSON,  
(Asst. Engineer U. S. Navy.)  
Professor of Mechanics and Applied Mathematics.

---

WINTHROP E. SCARRIT, A. B.,  
Instructor in English Literature.

---

J. I. McFARLAND, A. B.,  
Instructor, Preparatory Department.

---

A. M. SEWALL,  
Instructor, Preparatory Department.

---

EVENS W. THOMAS,  
Principal, Normal School.

---

E. C. WOLCOTT,  
Librarian and Assistant in Laboratory.

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\*In Europe on leave.



# UNIVERSITY OF COLORADO.

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## THE UNIVERSITY AND THE STATE.

The University of Colorado is a part of the public educational system of the State. The governing body of the Institution is a Board of Regents, elected by popular vote for terms of six years, as provided in the Constitution of the State. In accordance with the law of the State, the University aims to complete and crown the work that is begun in the public schools, by furnishing ample facilities for liberal education in Literature, Science and the Arts. Through the aid that has been received from the United States and from the State, it is enabled to offer its privileges, without charge for tuition, to all persons of either sex who are qualified for admission.

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## HISTORY.

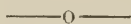
The University of Colorado was incorporated by an act of the Territorial Legislature of 1860, and the location fixed at Boulder. In 1871 three public-spirited citizens donated to the University 52 acres of land adjoining the city, valued at \$5,000. In 1874 the Territorial Legislature appropriated \$15,000 and the citizens of Boulder contributed a like sum in cash. In 1875 Congress set apart and reserved 72 sections of the public lands for the support of the State University. In 1876 the Constitution of Colorado provided that upon its adoption the University at Boulder should become an institution of the State, thus entitling it to the lands appropriated by Congress, and further made provisions for the management and control of the University; and

the first General Assembly of the State made provision for its permanent support by a levy of a tax of one-fifth of a mill upon the property of the State; also for a fund to be secured by the sale of the lands donated by the United States. In 1878 the General Assembly appropriated \$7,000 for apparatus, furniture, etc. In 1883 the General Assembly provided a special fund by a tax levy of one-fifth of a mill for the years 1883 and 1884—which tax will yield about \$36,000. This fund is to be expended for books, apparatus, furniture, to supply the present building with steam and gas, and for additional buildings. From the above it is evident that the State has provided liberally for the maintenance of the University, and affords to her sons and daughters facilities for acquiring a thorough education.

J. Alden Smith, State Geologist, donated his cabinet of minerals, one of the best arranged in the United States, the cash value of which is at least \$5,000. C. G. Buckingham, of Boulder, donated \$2,500 for the purchase of books for the Library.

The Institution was opened September, 1877, with two teachers and forty-four pupils. The last year eleven teachers were employed, with one hundred and forty-four pupils in attendance, representing thirteen counties of the State and four states.

## GENERAL INFORMATION.



### COURSES OF STUDY.

It is the leading purpose of the Institution to give thorough instruction in both Preparatory and Collegiate studies. To this end the various branches taught in the College are offered to the student in *courses of study*. A *full course of study* as here used means five exercises a week throughout a semester. As will be found upon consulting the requirements for a degree, the student is required to complete twenty-four full courses in order to obtain the recommendation of the faculty for a degree; of these, however, only a part is prescribed, thus affording the student an opportunity to direct his training in accordance with his inclinations and adaptability.

Students who are candidates for a degree take the prescribed work and select as many more courses as make up the full amount of work required. Special students, that is, those not candidates for a degree, select such work as they desire from the courses pursued at the time.

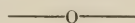
In the Preparatory School the work is so arranged as to provide for a thorough preparation to enter upon the courses of study in the college. An important change has just been made in extending the Preparatory work to four years. By this change, time for a more thorough preparation is gained, and a course of study which is in all respects equal to that of the best High Schools of the country.

Information concerning the courses of study in the Normal School will be found under that head.



## SPECIAL STUDENTS.

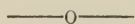
As already stated, ample provision is made for students who are not candidates for a degree. Any applicant who does not wish to take a degree, or one whose circumstances will not permit him, may elect any study or studies embraced in any of the courses and pursue the same for such length of time as he may choose—provided he is prepared for such study or studies, and further, that such branches of study are taught at the time. But no classes will be formed *specialty* for such students.



## NORMAL SCHOOL.

The design of this school is to prepare teachers for the work of conducting the schools of the State.

Its aim is more especially to impart thorough instruction in the branches taught in the common schools, and the best methods of teaching these branches. The work of this school also includes a comprehensive study of the Theory of Teaching, History and Philosophy of Education and School Economy.



## LIBRARY AND READING ROOM.

The College Library now contains nearly five thousand volumes. From the income of the Buckingham fund and the liberality of friends, large additions are annually made.

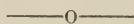
Provision has been made allowing all students access to the books each day for the purpose of consultation and reading. The librarian, or an assistant, is in attendance during library hours to render such aid in the selection of books as may be desired. Students have free access to the books, but are not allowed to take them from the room without receipting for the same.

A well furnished Reading Room, containing the latest periodicals, magazines and reviews, is open to all upon the payment of one dollar per annum. The following is a partial list of the periodicals regularly received :

North American Review.	Latine.
Contemporary Review.	Journal of Education.
Fortnightly Review.	The Present Age.
Princeton Review.	Harper's Weekly.
Quarterly Review.	London Weekly Times.
Edinburgh Review.	London Punch.
British Quarterly Review.	Puck.
Westminster Review.	Fliegende Blaetter.
Nineteenth Century.	Deutsche Rundschau.
Eclectic Magazine	Nature.
Foreign, Part I. French.	Popular Science Monthly.
“ Part II. Germ.	Electrical Review.
Atlantic Monthly.	American Journal of
Harper's Monthly.	Mathematics.
Century.	Messenger of Mathematics.
Mind.	Annals of Mathematics.
Revue des Deux Mondes.	Mathematical Magazine.
Journal des Economistes.	Mathematical Visitor.
Nation.	Journal fuer die Reine und
American Teacher.	Angewandte Mathematik.
Education.	Colorado Daily and Weekly
American Journal of	Papers.
Philology.	

## APPARATUS AND CABINET.

The Cabinet contains a valuable collection of minerals and specimens to illustrate the Geology, Natural History and Botany of the Northwest. The Herbarium contains over seven hundred specimens from Colorado, and has been arranged with great care in accordance with Gray's Manual of Botany. A collection of corals and shells, and a collection of fossils and rocks illustrating the Geology of Colorado, have recently been added.



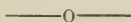
## CHEMICAL LABORATORY.

The appliances for the Theoretical and Practical study of Chemistry have been greatly improved and extended from year to year. One half of an entire story of the building has been devoted to the Chemical Laboratory, Weighing Room and Chemical Store Room. The Laboratory is *complete*. Four thousand dollars have been expended in making this Laboratory equal to the best in the country. For Laboratory practice each student has the exclusive use of a table supplied with a complete set of re-agents, and the necessary apparatus for experimental work. The Weighing Room adjoining the Laboratory is supplied with a Troemner's Assay Balance, Troemner's Ore Scale, and two Becker & Son's Analytical Balances. Adjoining the Laboratory also, is the Chemical Store Room. The Stock of Chemicals from the celebrated house of H. Trommsdorff, in Erfurt, is entirely adequate to the most complete and extended course of study in the department of Chemistry.

Aside from the advantages offered by the Laboratory for the study of Metallurgy, the gold and silver mines of Boulder County and the reduction works of Boulder and vicinity offer rare facilities for obtaining a knowledge of the treatment of ores.

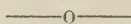
## CHOICE OF COURSE.

No student will be permitted to change his course or drop any study, except by vote of the Faculty, and then only at the beginning of a term or semester.



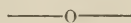
## ELECTIVES.

The Faculty reserves the right to withdraw the offer of any elective not chosen by five or more students.



## REQUIREMENTS FOR GRADUATION.

Five exercises a week during a semester, whether in Recitations, Laboratory work, or Lectures, constitute a *full course of study*. Students must satisfactorily complete *twenty-four full courses* to obtain the recommendation of the Faculty for the degree of Bachelor of Arts or Bachelor of Science. It is not essential that the exercises constituting a *full course* shall be in one and the same branch of study.

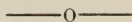


## THE DEGREE OF BACHELOR OF ARTS.

Of the twenty-four full courses which the student is required to complete to obtain the recommendation of the Faculty for the Degree of Bachelor of Arts, the following are *prescribed*.

Courses	1, 2, 3, 4, 5, 6, 7 . . .	in Greek.
Courses	1, 2, 4, 5 . . . . .	in Latin.
Courses	1, 2, 3, 4 . . . . .	in Mathematics.
Courses	1, 2, 3, 4, 5, 8 . . . .	in German, or {
Courses	1, 2, 3, 4, 5, 6 or 7, 8 .	in French. }
Courses	1, 3 . . . . .	in English and Rhetoric.
Course	1 . . . . .	in Philosophy.
Course	1 . . . . .	in Political Economy.
Courses	1, 5 . . . . .	in History.

These make seventeen and three-fifths full courses. From the other courses offered the student must select and complete enough to make *twenty-four full courses*. A student may take instead of the prescribed Greek four full courses in French or German.

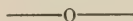


#### THE DEGREE OF BACHELOR OF SCIENCE.

Of the twenty-four full courses which the student is required to complete to obtain the recommendation of the Faculty for the degree of Bachelor of Science, the following are *prescribed*:

Courses	1, 2, 3, 4, 5, 6, 7, 9 or 8	in Mathematics.
Courses	1, 2, 3, 5 . . . . .	in Physical Science.
Courses	1, 2, 3, 4, 5, 8 . . . . .	in German, or {
Courses	1, 2, 3, 4, 5, 6 or 7, 8 .	in French. }
Courses	1, 3 . . . . .	in English and Rhetoric.
Courses	1, 5 . . . . .	in History.
Course	1 . . . . .	in Botany.
Courses	1, 2, 3, 4, 5 . . . . .	in Chemistry.
Course	1 . . . . .	in Zoology.
Courses	1, 2 . . . . .	in Geology.

These constitute nineteen and two-fifths full courses. From the remaining courses offered the student must select and complete enough to make *twenty-four full courses*.



#### ENGINEERING.

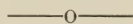
##### THE DEGREE OF BACHELOR OF SCIENCE.

Of the twenty-four full courses which the student must complete to secure the degree of Bachelor of Science for a course in engineering, twenty and two-fifths full courses are prescribed, as follows:



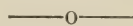
Courses	1, 2, 3, 4, 5, 6, 7, 9 or 8 . .	in Mathematics.
Courses	1, 2, 3, 4, 5, 6, 7, 8, 9, 10 .	in Engineering.
Courses	1, 2, 3, 5 . . . . .	in Physical Science.
Courses	1, 2, 3, 4 . . . . .	in Surveying.
Courses	1, 2, 3, 4, 5, 8 . . . . .	in German, or }
Courses	1, 2, 3, 4, 5, 6 or 7, 8 . . .	in French. }
Courses	1, 2, 3, 4, 5, 6, 7 . . . . .	in Drawing.
Course	1 . . . . .	in Chemistry.

In addition to these courses, the student must present a satisfactory thesis. From the other courses offered the candidate must select and complete enough to make *twenty-four full courses*.



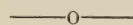
## MASTER OF ARTS AND MASTER OF SCIENCE.

Upon application to the President or Secretary by any Bachelor of Arts or Bachelor of Science, for an advanced degree, a special committee of the Faculty is appointed, under whose direction the candidate lays out his work and prepares his thesis to secure the degree of Master of Arts or Master of Science. Such application must be made at least one year in advance, and must be accompanied by a statement of the branches of study to which the candidate desires to give especial attention.



## DIPLOMA OF THE NORMAL SCHOOL.

All students who complete the prescribed work of the Preparatory School, except the foreign languages of the last two years, and who complete the prescribed courses of pedagogical work, will receive the diploma of the Normal School.



## CERTIFICATE OF THE PREPARATORY SCHOOL.

Certificates will be given to students who complete any one of the Preparatory courses of study.

## PARTIAL WORK.

Certificates of the following form are given to students who comply with the necessary requirements:

## UNIVERSITY OF COLORADO.

THIS CERTIFIES that ———— has completed the prescribed courses of study in ————.

—————,  
President.

These certificates are given, on application, to all students who have satisfactorily completed certain courses, if the minimum required for a degree has been taken.

—o—

## GOVERNMENT.

The discipline of the Institution is administered with firmness and impartiality. But it aims to develop self-control, manliness, womanliness, and a generous public spirit—to induce such a high moral sentiment as will be in itself a powerful governing force in the school.

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SELECTION OF COURSES IN PREPARATORY AND  
NORMAL SCHOOLS.

All students who enter the Preparatory School, or the Normal School, will be required to pursue the studies of the first two years, or to pass an examination in the same. Third and fourth year students who are candidates for graduation will take one of the regular courses, and may take such additional work as they desire and in the opinion of the Faculty are capable of pursuing. Students of the third and fourth years who are not candidates for graduation will select a course from the various branches taught.

But all students of whatever class, after entering upon work in accordance with the prescribed regulations, will be subject to the following provisions:

No student will be permitted to change or to vary his course until the close of the school year, except for one of the following reasons:

1—Physical or mental disability.

2—Ability to perform additional work.

All applications for changing or varying the course must be made in writing and addressed to the President of the Faculty, and must allege one of the foregoing reasons. If the first reason is alleged the student will be directed to discontinue such work, *both in kind and amount*, and for such time as the Faculty shall deem proper. If the second reason be alleged, the student's work will be increased if his standing in class justifies it. The Faculty reserves the right to increase or lessen any student's work at any time.

RESIDENT GRADUATES.—Graduates of this or of any other College, desirous of continuing their studies, may attend the public lectures of the College, and use the library, laboratory, apparatus and scientific collections, subject to such rules as the Faculty may establish. They may also receive private instruction from the Professors in the respective departments.

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### LECTURES.

During the year two courses of lectures were delivered under the auspices of the University. The first course was placed in several of the principal cities of the State and consisted of the following:

Nov. 19, 1883, Major H. C. Dane, "Up the Rhine and Over the Alps with a Knapsack."

Feb. 29, 1884, Dr. James Hedley, "The Sunny Side of Life."

March 3, 1884, Dr. Edwin B. Mead, "Carlyle and Emerson."

March 21, 1884, Dr. J. A. Sewall, "The Leaf."

May 8, 1884, Joseph Cook, "Does Death End All?"

The second course of lectures was delivered by members of the Faculty, as follows:

Sept. 28, 1883, W. F. C. Hasson, U. S. N., "The Treaty with Corea."

Oct. 12, 1883, Prof. Paul H. Hanus, "Valuable Knowledge."

Oct. 26, 1883, Prof. W. E. Scarritt, "The Man that is Here and How He Came."

Nov. 9, 1883, Prof. Isaac Dennett, "Scholarship."

Nov. 23, 1883, Dr. J. W. Bell, "German Universities."

Dec. 19, 1883, Dr. J. A. Sewall, "Evolution."

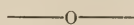
Jan. 18, 1884, Prof. Paul H. Hanus, "A View of Life."

Feb. 8, 1884, Prof. W. E. Scarritt, "That Bad Boy."

Feb. 27, 1884, Dr. J. W. Bell, "Social Problems."

March 11, 1884, W. F. C. Hasson, U. S. N., "Japan and the Japanese."

April 22, 1884, Prof. Isaac Dennett, "Ideals and Idols."



## THE UNIVERSITY CADET CORPS.

The State having supplied the University with rifles, a Cadet Corps has been organized under efficient discipline. None but students at the University will be admitted to the Corps. Students desirous of becoming members of the Cadet Corps will, at their own discretion, present a written application to the Commandant. This application having been accepted, the student becomes subject to the regulations governing the Corps and his option ceases. The Commandant reserves the right to reject any application. The Cadets will be drilled in the

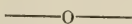
Schools of the Soldier and Company. Neat and durable uniforms may be obtained for \$21 50. During the past year the following students composed the Corps:

Captain . . . . .	Bert Tyler.	
First Lieutenant . . . . .	Ernest E. Johnson.	
Second Lieutenant . . . . .	Jacob Groesbeck.	
First Sergeant . . . . .	Edward C. Mason.	
Second Sergeant . . . . .	Newton D. Estes.	
*Allen, O. J.	Culver, G. M. C.	Pierce, C. H.
Bellman, W. H.	Duncan, G.	†Stanley, H.
Blake, J. E.	Estes, G.	Stanton, L.
*Cantlon, J. M.	Holstein, B.	Sternberg, L.
*Campbell, J.	Ireland, C. L.	*Stewart, J. F.
Chase, A.	Myers, T.	Thomas, W. J.
Chase, F. L.	Noxon, V. I.	Tyler, F.
Cronan, J.	Pease, C.	Woodworth, H. A.

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\* Dishonorably dismissed.

† Deceased.



## FEES AND EXPENSES.

The fees and expenses are as follows:

A reading-room fee of one dollar per annum; a matriculation fee of five dollars for residents of the State, and ten dollars for non-residents; and an annual fee of fifteen dollars for non-residents.

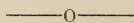
These fees are payable in advance.

Students who pursue Laboratory courses of study are required to pay for the materials and apparatus actually consumed by them. The Laboratory expenses of students will vary with their prudence and economy.

Students obtain board and lodging in private families for from four to six dollars a week. Room rent varies

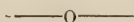


from one to two dollars a week for each student. Students can secure comfortable rooms in the elegant cottages recently erected on the Campus. The annual expenses vary from one hundred and fifty to three hundred dollars.



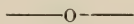
### STUDENTS RECOMMENDED FOR TEACHERS.

It has come to the knowledge of the Faculty that students who have attended the University only a short time, or who, having attended a longer time, have so conducted themselves as not to meet with the approval of the Faculty, are from time to time employed as teachers in the schools of the State. In view of this fact County Superintendents and School Boards are notified that the Faculty will recommend only such students for teachers as, in their opinion, have made a good record.



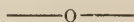
### CLASSIFICATION OF STUDENTS.

Students having recitations in two or more years of the course, or who have not completed the entire work required of the class, will hereafter be catalogued as members of the lowest class in which they recite, or in which their work is incomplete.



### LITERARY SOCIETY.

An especial feature of the University is the Literary Society, which is kept in a flourishing condition, and is proving a valuable means of discipline and culture.



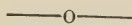
### PAPER.

The *Portfolio* is a wide-awake college paper published by the students.



## LOCATION.

The University has a beautiful situation upon the high grounds on the south side of Boulder Creek, and overlooks the City of Boulder. The scenery here is not surpassed, if equaled, in the whole Rocky Mountain region. To the west are seen the boldest and highest foot-hills of the Range, and far away the ever snow-capped summit of Arapahoe Peak. On the south rise the beautiful *mesas* or table lands; while to the north and east as far as the eye can reach extend the fertile plains, dotted with lakes, and at this season (June) beautifully green with the crops of cereals. The tourist may find in Boulder, South Boulder and Bear Canons, and on the road to Sunshine and Gold Hill, scenery as grand, varied and beautiful as any in the State, or even in Switzerland. The climate is all that could be desired, neither excessively warm in summer nor cold in winter, and seems particularly favorable to the exercise of the intellectual faculties. The close proximity of some of the richest mines of the State, and the extensive reduction works where the crude ore is treated, afford to the student of chemistry and metallurgy rare opportunities for obtaining a practical knowledge of these sciences.



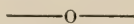
TERMS OF ADMISSION TO PREPARATORY AND  
NORMAL SCHOOL.

Candidates for admission to the Normal School must have passed the entrance examination to the Preparatory School, and have completed the work of the first two years, or its equivalent.

Applicants for admission to the Preparatory School must pass an examination in Arithmetic, Geography, Outlines of United States History, and Elements of English Grammar.

## ADMISSION TO ADVANCED STANDING.

Those proposing to enter any course at an advanced standing will be examined in such studies of the course as may have been pursued previous to their admission.



## ACCREDITED HIGH SCHOOLS.

Looking toward a unification of the public school system of Colorado, arrangements have been made by the Boards of Education of the following cities and towns with the University, whereby the graduates of their High Schools are admitted to the University without examination. These accredited High Schools are as follows:

Denver, Pueblo, Leadville, Gunnison, Trinidad, Georgetown and Golden.

# Courses of Study in Preparatory School.

# PREPARATORY SCHOOL.

ALL pupils who have passed the entrance examination and those admitted on certificate, will take work as follows :

[THE FIGURES AT THE RIGHT INDICATE THE NUMBER OF RECITATIONS PER WEEK.]

	FIRST YEAR.	SECOND YEAR.
FIRST TERM. [16 WEEKS.]	Latin Grammar and Reader . . . . . 5 Algebra . . . . . 5 English . . . . . 3 History . . . . . 2	Caesar and Latin Prose . . . . . 5 Algebra . . . . . 5 English . . . . . 3 History . . . . . 2
SECOND TERM. [12 WEEKS.]	Latin Grammar and Reader . . . . . 5 Algebra . . . . . 5 English . . . . . 3 History . . . . . 2 Physiology and Hygiene; Lectures . . . . . 1	Caesar and Latin Prose . . . . . 5 Theoretical Arithmetic . . . . . 4 English . . . . . 3 History . . . . . 2 Physical Geography; Lectures . . . . . 1 Zoology; Lectures . . . . . 1
THIRD TERM. [10 WEEKS.]	Latin Grammar and Reader . . . . . 5 Algebra . . . . . 5 English . . . . . 3 History . . . . . 2	Caesar and Latin Prose . . . . . 4 Theoretical Arithmetic . . . . . 3 English . . . . . 3 History . . . . . 2 Botany . . . . . 5

# PREPARATORY SCHOOL.

Students who intend to become candidates for the degree A. B., will take work as follows :

	THIRD YEAR.	FOURTH YEAR.
FIRST TERM. [ 16 WEEKS. ]	Cicero and Latin Prose . . . . . 5 Greek Grammar and Reader } or } German. } Geometry . . . . . 5	Virgil . . . . . 5 Anabasis and Greek Prose or German . . . . . 5 Mathematics (Reviews) . . . . . 2 English or History . . . . . 2 Physics . . . . . 3 or Geology . . . . . 4
SECOND TERM. [ 12 WEEKS. ]	Cicero and Latin Prose . . . . . 5 Greek Grammar and Reader } or } German. } Geometry . . . . . 5	Virgil . . . . . 5 Anabasis and Greek Prose or German . . . . . 5 Mathematics (Reviews) . . . . . 2 English or History . . . . . 2 Physics . . . . . 3 or Astronomy . . . . . 4
THIRD TERM. [ 10 WEEKS. ]	Greek and Latin Prose . . . . . 5 Greek Grammar and Reader } or } German. } Geometry . . . . . 5	Ovid and Roman History . . . . . 5 Homer's Iliad and Greek History or German . . . . . 5 Mathematics (Reviews) . . . . . 2 English or History . . . . . 2 Physics . . . . . 2 or Chemistry . . . . . 4

# PREPARATORY SCHOOL.

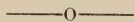
Students who intend to become candidates for the degree B. S. will take work as follows:

	THIRD YEAR.	FOURTH YEAR.
FIRST TERM. [16 WEEKS.]	German or Cicero and Latin Prose . . . . . 5 Geometry . . . . . 5 Physics . . . . . 3 English . . . . . 2 History . . . . . 2 Mechanical Drawing . . . . . 2	German or Virgil . . . . . 5 Mathematics (Reviews) . . . . . 2 English . . . . . 2 History . . . . . 2 Geology . . . . . 4
SECOND TERM. [12 WEEKS.]	German or Cicero and Latin Prose . . . . . 5 Geometry . . . . . 5 Physics . . . . . 3 English . . . . . 2 History . . . . . 2 Mechanical Drawing . . . . . 2	German or Virgil . . . . . 5 Mathematics (Reviews) . . . . . 2 English . . . . . 2 History . . . . . 2 Astronomy . . . . . 4
THIRD TERM. [10 WEEKS.]	German or Cicero and Latin Prose . . . . . 5 Geometry . . . . . 5 Physics . . . . . 3 English . . . . . 2 History . . . . . 2 Mechanical Drawing . . . . . 2	German or Ovid and Roman History . . . . . 5 Mathematics (Reviews) . . . . . 2 English . . . . . 2 History . . . . . 2 Chemistry . . . . . 4



THE UNIVERSITY.

## Requirements for Admission.



CANDIDATES FOR THE DEGREE OF BACHELOR OF ARTS.

In 1884-5 candidates will be examined in the following subjects:

1. LATIN.—Elements of Grammar; Jones's First Latin Lessons, or an equivalent; the translation at sight of easy Latin Prose, and the translation into Latin of simple English sentences suitable to those who have taken Jones's Composition; Cæsar, four books; Cicero, six orations; Virgil, the whole of the Aeneid. For the last six books of the Aeneid all the Eclogues and Georgics, or the Georgics and 2,500 lines of Ovid may be substituted.

2.\* GREEK.—White's First Lessons; Hadley's or Goodwin's Greek Grammar, the etymology must be mastered; Xenophon's Anabasis, three books; Iliad, two books, omitting the catalogue of ships; translation into Greek of simple sentences suitable to students who have taken Jones's Greek Prose.

3. ANCIENT HISTORY AND GEOGRAPHY.—Greek history to the death of Alexander; Roman history to the death of Commodus; general facts of Physical Geography and the Geography connected with the study of Greek and Roman History, and the Greek and Latin authors read; Smith's Smaller History of Greece, and Smith's or Leighton's History of Rome will indicate the amount required.

4. MATHEMATICS.—*Arithmetic*.—Fundamental Rules, Fractions, Denominate Numbers, Percentage, Proportion.

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\* Students looking to the degree of A. B. are allowed to substitute the German of the Preparatory Scientific Course for the Greek.

*Algebra*.—(Olney's Complete School Algebra.) Fundamental Rules, Fractions, Simple Equations, Elimination, Involution, Evolution, Calculus of Radicals, Quadratic Equations, Ratio, Proportion, Progressions.

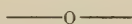
*Geometry*.—Plane and Solid Geometry. (Chauvenet.)

5. PHYSICS.—Elements of Natural Philosophy. (Gage.)

6. PHYSIOLOGY.—Hooker, Youman or Dalton.

7. HISTORY.—Outlines of General History. (Freeman or Ploetz.)

ENGLISH.—At the time of examination, each candidate will be required to write an essay of not less than three hundred words on one of the following subjects: Julius Cæsar; Pickwick Papers; Evangeline; Emerson's Essay on Compensation.



#### CANDIDATES FOR THE DEGREE OF BACHELOR OF SCIENCE.

In 1884-5 candidates will be examined in the following subjects:

1. ENGLISH LANGUAGE, MATHEMATICS, HISTORY, PHYSICS AND PHYSIOLOGY.—The same as for the degree of Bachelor of Arts.

2. GERMAN AND LATIN.—Candidates may offer either four years Latin, or two years Latin and two years German. The requirements in each are as follows:

*German*.—Principles of German Grammar (Whitney's or Otto's preferred); translation from English into German, and sight translations from ordinary German into English.

*Latin*.—See requirements for admission to course leading to the degree of A. B.

3. GEOGRAPHY.—The same as for the degree of Bachelor of Arts, omitting Ancient Geography.

4. BOTANY.—First twenty seven chapters of Gray's Lessons.

5. ZOOLOGY.—Elements of Zoology. (Morse's First Book of Zoology.)

6. GEOMETRICAL DRAWING.—Warren's Drafting Instruments.

7. CHEMISTRY.—The Elements of Inorganic Chemistry. (Eliot and Storer, or Roscoe.)

8. GEOLOGY.—Elements of Geology. (Dana's Geological Story.)

The requirements for admission to the B. S. Engineering Course.—Same as for admission to the B. S. Course.

Candidates for degrees are admitted to the University on a certificate of graduation from the Preparatory School.

Graduates of accredited High Schools will be admitted to the University without examination.

All other candidates will be admitted on satisfactory examination upon the required subjects.

# UNIVERSITY COURSES. COURSES IN LATIN.

COURSE.	FIRST SEMESTER.	
1 . . . . .	{ Livy; Prose Composition; four-fifths . . . . .	Full Course.
	{ Private reading; Cicero de Amicitia; one-fifth . . . . .	
2 . . . . .	{ Juvenal; Satires; four-fifths . . . . .	Full Course.
	{ Reading at sight and private reading; De Senectute; one-fifth . . . . .	
3 . . . . .	{ Select Letters of Cicero and of Pliny; Aulus Gellius . . . . .	Full Course.
	{ Reading rapidly at sight and Prose Composition (advanced work); two-fifths .	
	SECOND SEMESTER.	
4 . . . . .	{ Horace; Odes, Epistles and Satires; four-fifths . . . . .	Full Course.
	{ Private reading; Horace; Epodes; one-fifth . . . . .	
5 . . . . .	{ Tacitus; Agricola; Germania; four-fifths . . . . .	Full Course.
	{ Private reading; Selections from Tacitus; one-fifth . . . . .	
6 . . . . .	{ Plautus; Quintilian . . . . .	Full Course.
	{ Comparative Philology of Greek and Latin . . . . .	

# UNIVERSITY COURSES. COURSES IN GREEK.

COURSE.	FIRST SEMESTER.	
1 . . . . .	{ Homer; Iliad; Greek Prose; four-fifths . . . . .	Full Course.
2 . . . . .	{ History of Greece, Recitations and Lectures; one-fifth . . . . .	
5 . . . . .	{ Sophocles; Œdipus Tyrannus . . . . .	Full Course.
	{ Æschylus; Prometheus . . . . .	
	{ Lectures on Greek Drama . . . . .	Full Course.
8 . . . . .	{ Xenophon; Memorabilia; two-fifths . . . . .	
9 . . . . .	{ Aristophanes; Clouds; three-fifths . . . . .	
SECOND SEMESTER.		
3 . . . . .	{ Herodotus and Thucydides; Selections; three-fifths . . . . .	Full Course.
	{ Greek Prose; two-fifths . . . . .	
4 . . . . .	{ Demosthenes; Olynthiacs; four-fifths . . . . .	Full Course.
	{ Lectures on Greek Orators; one-fifth . . . . .	
6 . . . . .	{ Plato; Phædo; three-fifths . . . . .	Full Course.
	{ Lectures on the Philosophy of Greece; two-fifths . . . . .	
7 . . . . .	{ History of Greek Literature and Art—Lectures and Recitations; two-fifths . . . . .	Full Course.
10 . . . . .	{ Homer; Odyssey—Greek Antiquities; three-fifths . . . . .	



# UNIVERSITY COURSES. COURSES IN GERMAN.

COURSE.	FIRST SEMESTER.	
1 . . . . .	Beginning German--Whitney's Grammar and Reader . . . . .	Four-Fifths Course.
2 . . . . .	German Historical Dramas . . . . .	Four-Fifths Course.
3 . . . . .	Selections in Prose from German Classics . . . . .	Three-Fifths Course.
4 . . . . .	Grossmann's Literaturgeschichte . . . . .	Three-Fifths Course.
SECOND SEMESTER.		
5 . . . . .	German Plays--Composition and Conversation . . . . .	Four-Fifths Course.
6 . . . . .	{ Goethe's Hermann und Dorothea . . . . .	Three-Fifths Course.
7 . . . . .	{ Lessing's Nathan der Weise . . . . .	Three-Fifths Course.
8 . . . . .	Goethe's Faust . . . . .	Two-Fifths Course.
	Literaturgeschichte . . . . .	

# UNIVERSITY COURSES.

## COURSES IN FRENCH.

COURSE.	FIRST SEMESTER.	
1 . . . . .	Beginning French—Otto's Grammar and Reader . . . . .	Four-fifths Course.
2 . . . . .	French Plays and Modern Prose . . . . .	Three-fifths Course.
3 . . . . .	French Dramas—Composition and Conversation . . . . .	Three-fifths Course.
4 . . . . .	French History and Literature . . . . .	Three-fifths Course.
	SECOND SEMESTER.	
5 . . . . .	French Grammar; La Fontaine's Fables; French Comedies . . . . .	Two-fifths Course.
6 . . . . .	French Classics . . . . .	Three-fifths Course.
7 . . . . .	Masterpieces of the Seventeenth Century . . . . .	Three-fifths Course.
8 . . . . .	French Literature . . . . .	Two-fifths Course.

# UNIVERSITY COURSES.

## COURSES IN MATHEMATICS.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
1 . . . .	Higher Algebra and Theory of Equations.	Four-fifths Course . .	Olney, Todhunter, Burnside and Panton.
2 . . . .	Modern Geometry . . . . .	One-fifth Course . . .	Olney, Chauvenet, Rouché and Comberousse, Chasles
5 . . . .	Loci of Equations.—Lectures . . . . .	One-fifth Course . . .	Frost, Salmon.
6 . . . .	Plane Analytics . . . . .	Four-fifths Course . .	Todhunter, Olney, Howison, Salmon.
10 . . . .	Determinants . . . . .	Full Course . . . . .	{ Muir, Burnside and Panton, Dostor, Baltzer, Scott, { Salmon.
8 . . . .	Differential and Integral Calculus (Con- tinuation of Course 7) . . . . .	Three-fifths Course .	{ Rice and Johnson, Todhunter, Olney, Williamson, { Houel.
15 . . . .	Mathematical Reading . . . . .	Full Course . . . . .	
13 . . . .	Analytical Mechanics . . . . .	Full Course . . . . .	Tait and Steele, Wood, Routh, Todhunter.

# UNIVERSITY COURSES.

## COURSES IN MATHEMATICS.

COURSE.	SECOND SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
3 . . . .	Plane and Spherical Trigonometry . . . .	Four-fifths Course . . . . .	Chauvenet, Olney.
4 . . . .	Loci of Equations; Lectures . . . . .	One-fifth Course . . . . .	Frost.
7 . . . .	Differential and Integral Calculus . . . .	Full Course . . . . .	Rice and Johnson, Olney, Todhunter, Williamson, Houel.
9 . . . .	Solid Analytics . . . . .	Three-fifths Course . . . . .	Aldis, Frost.
11 . . . .	Quaternions . . . . .	Three-fifths Course . . . . .	Hardy, Tait, Hamilton.
12 . . . .	Method of Least Squares . . . . .	Two-fifths Course . . . . .	Merriman.
14 . . . .	Analytical Mechanics . . . . .	Full Course . . . . .	
16 . . . .	Mathematical Reading . . . . .	Full Course . . . . .	

# UNIVERSITY COURSES.

## COURSES IN PHYSICAL SCIENCE.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
1 . . . . .	General. Physics.—Lectures and Recitations . . . . .	Full Course . . . . .	Ganot, Olmstead, Kohlrausch, Pickering.
2 . . . . .	Heat . . . . .	Three-fifths Course . . . . .	Clausius, Stewart, Tyndall.
	SECOND SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
3 . . . . .	Electricity . . . . .	Three-fifths Course . . . . .	Jenkins, Faraday, Maxwell
4 . . . . .	Thermodynamics . . . . .	Three-fifths Course . . . . .	Rankine.
5 . . . . .	Descriptive Astronomy . . . . .	Three-fifths Course . . . . .	White, Newcomb, Chambers.
6 . . . . .	Time.—Latitude and Longitude . . . . .	One-fifth Course . . . . .	American Ephemeris and Nautical Almanac.

[Courses in Physical Manipulations will be offered as soon as the University is properly supplied with working apparatus. \$5,000 has been appropriated for such apparatus.]

# UNIVERSITY COURSES.

## COURSES IN CHEMISTRY.

COURSE.	FIRST SEMESTER.	REFERENCE BOOKS.
1 . . . .	Qualitative Analysis of <i>known</i> substances, Five hours a week in Laboratory during four months. . . . .	Regnault's Elements of Chemistry.
3 . . . .	Quantitative Analysis. Two hours a week in Laboratory. . . . .	Muspratt's Chemistry.
6 . . . .	Organic Chemistry. Lectures. . . . .	{ Fresenius' Qualitative and Quantitative } Analysis.
8 . . . .	Assaying Ores. Wet way.—Laboratory work. . . . .	Wells's Outlines of Chemical Analysis.
9 . . . .	Assaying Ores. Dry way.—Laboratory work. . . . .	Liebig's Complete Works.
	SECOND SEMESTER.	REFERENCE BOOKS.
2 . . . .	Qualitative Analysis of <i>unknown</i> substances. Five hours a week in Laboratory during six months. . . . .	Storer's Dictionary of Chemical Solubilities.
4 . . . .	Volumetric Analysis. Laboratory work.	Schellen's Spectrum Analysis.
5 . . . .	Blow-pipe Analysis. Laboratory work.	{ Plattner's Qualitative and Quantitative } Analysis with the Blow-Pipe.
7 . . . .	Ultimate Organic Analysis. . . . .	{ Crooke's Mitchell's Manual of Practical } Assaying.
10 . . . .	Original Research. . . . .	



## UNIVERSITY COURSES.

## COURSES IN ZOOLOGY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
1 . . . .	General Zoology, Text Book and Lectures . . . . .		
4 . . . .	Conchology, with special reference to the shells of Colorado . . . . .	Three-fifths Course . . . . .	Carpenter, Nicholson, Packard, Seudder, Wilson.
		Two-fifths Course . . . . .	Binney, Woodward.
2 . . . .	Laboratory Work. (Dissections) . . . . .	Two-fifths Course . . . . .	Huxley, Morse.
3 . . . .	Ornithology, with special reference to Colorado birds . . . . .	Two-fifths Course . . . . .	Coues, Baird.

## UNIVERSITY COURSES.

## COURSES IN GEOLOGY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
1 . . . . .	General Geology, Text Book and Lectures . . . . .	Two-fifths Course.	Dana, Le Conte, Dawson, Wilson, Lyell.
	SECOND SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
2 . . . . .	General Geology, Text Book and Lectures.	Three-fifths Course.	Hayden's Reports.
3 . . . . .	Paleontology—with special reference to the fossils of Colorado . . . . .	Two-fifths Course.	Wheeler's Reports.

# UNIVERSITY COURSES.

## COURSES IN BOTANY.

COURSE.	FIRST SEMESTER.	TEXT BOOKS AND REFERENCE BOOKS.
2. . . . .	Cryptogamic Botany . . . . .	Gray, Sachs.
3. . . . .	Structural and Physiological Botany . . . . .	Berkeley, Bessey.
	SECOND SEMESTER.	
1. . . . .	Phænogamic Botany . . . . .	McAlpine's Atlases.
	Full Course . . . . .	



# UNIVERSITY COURSES. COURSES IN ENGLISH AND RHETORIC.

43

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
1. . . . .	Composition and Speeches . . . . .	Two-fifths Course .	Abbott.
2. . . . .	{ Rhetoric. Theory and Practice. Each student will present two essays. . . . .	Two-fifths Course .	Hill.
3. . . . .	{ English Literature. Study of Masterpieces: Moore's "Utopia;" Bacon's Essays; Milton's "Comus;" De Quincey's "Opium Eater;" Milton's "Paradise Lost;" Pope's "Essay on Man;" Tennyson's "In Memoriam." . . . .	Three-fifths Course.	Taine, Welsh, Morley.
	SECOND SEMESTER.		
4. . . . .	Early English. Study of Chaucer. . . . .	Two-fifths Course .	Morris's Prologue and Knight's Tale.
5. . . . .	{ English Literature. Study of Shakespeare; Richard II., King Lear, Twelfth Night, Merchant of Venice, Tempest, Othello, Macbeth, Hamlet . . . . .	Three-fifths Course.	Hudson, White.
6. . . . .	Critical Study of Selections in Prose and Poetry. . . . .	Two-fifths Course .	Gervinus, Snyder, Jameson, Abbott.

# UNIVERSITY COURSES.

## COURSES IN PHILOSOPHY.

COURSE.	FIRST SEMESTER.	TEXT BOOKS AND REFERENCE BOOKS.
1 . . . .	History of Philosophy, with special reference to Psychology and Ethics . . . . .	Schwegler, Ueberweg, Porter, etc.*
2 . . . .	Formal and Applied Logic . . . . .	Jevons, Whateley, Mill.*

## COURSE IN POLITICAL ECONOMY.

COURSE.	FIRST SEMESTER.	TEXT BOOKS AND REFERENCE BOOKS.
1 . . . .	Outlines of Political Economy . . . . .	Perry, Cossa, Laveleye.*

\* See remark in Courses in History, p. 42.



# UNIVERSITY COURSES.

[The Courses leading to the degree of Bachelor of Science (Engineering) are not yet permanently established, but the University is enabled to offer the following Courses for the Academic Year of 1884-5. The Faculty reserves the right to withdraw any of these Courses for which there are less than five applicants.]

## COURSES IN ENGINEERING.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
2 . . . . .	Graphical Statics . . . . .	Two-fifths Course . . .	Eddy.
3 . . . . .	Applied Mechanics . . . . .	Three-fifths Course . .	Rankine.
6 . . . . .	Engineering Construction . . . . .	Four-fifths Course . . .	Rankine, Wood, Mahan.
8 . . . . .	Stereotomy . . . . .	Two-fifths Course . . .	Lectures.
4 . . . . .	Mechanism and Machine Drawing . . . . .	Two-fifths Course . . .	Willis.
	SECOND SEMESTER.		
1 . . . . .	Elementary Mechanics . . . . .	Two-fifths Course . . .	Todhunter, Wood.
5 . . . . .	Machinery and Prime Movers . . . . .	Three-fifths Course . .	Rankine and Weisbach.
7 . . . . .	Hydraulics, Water Supply and Sewage . . . . .	One-fifth Course . . .	Lectures.
9 . . . . .	Strength of Materials . . . . .	Two-fifths Course . . .	Wood, Rankine.
10 . . . . .	Engineering Design . . . . .	Three-fifths Course . .	Lectures.

# UNIVERSITY COURSES.

## COURSES IN DRAWING.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
1 . . . .	Elementary Descriptive Geometry . . . .	Three-fifths Course. . .	Church's "Descriptive Geometry."
2 . . . .	{ Elements of Mechanical Drawing and Lettering . . . . .	Two-fifths Course . . .	
5 . . . .	{ Intersections of Surfaces and Solids and Shadings with Right Line and Brush. . . . .	Three-fifths Course. . .	{ Warren's "Drafting Instruments and Projection Drawing."
7 . . . .	{ Shades, Shadows and Perspective Isometric Projections . . . . .	Two-fifths Course. . .	Thompson's Mahan's "Industrial Drawing."
	SECOND SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
3 . . . .	Applications of Descriptive Geometry .	Three-fifths Course . .	Enthoffer's Topography.
4 . . . .	{ Mechanical Drawing and Stereo- graphic Projections. . . . .	Two-fifths Course. . .	
6 . . . .	Continuation of Course 5 . . . . .	Two-fifths Course. . .	
8 . . . .	Topographical Drawing . . . . .	Three-fifths Course . .	

# UNIVERSITY COURSES.

## COURSES IN SURVEYING.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
3 . . . . .	Railroad Surveying and Earth Works . . .	Three-fifths Course.	
4 . . . . .	Field Work . . . . .	One-fifth Course . .	
	SECOND SEMESTER.		
1 . . . . .	General Theory of Surveying . . . . .	One-fifth Course . .	Murray, Gillespie.
2 . . . . .	Use of Transit, Solar Compass and Level . .	Two-fifths Course.	



# NORMAL SCHOOL.

## Courses of Study.

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1.—THEORY. 1—*Education*: What is it? Its relation to learning; its mode, its relation to the body, the mind. 2—*The Mind*: Its essential unity; classification of its powers; order of their development; cultivation of the senses, the memory and the reason. 3—*The Teacher*: His motives; preparation; manners; habits of dress, action, thought and speech; health. 4—*The School*: The house and its surroundings; furniture and apparatus; organization of a school; first day's work; the programme; grading, etc. 5—*School Management*: Principles of government; punishments; making rules; the characteristics of a teacher which are essential to good management. 6—*Instruction*: What is a recitation? Use of text-books; exactness and promptness in recitation; helping pupils; methods of questioning, etc. Text book: E. C. Hewett's Pedagogy. Recitations and lectures. Three-fifths course.

2.—OBSERVATION AND DISCUSSION OF METHODS AND PRINCIPLES exhibited in the instruction of children in the Model School. Recitations and essays. One-fifth course.

3.—PRACTICE. The students are expected to take charge of classes in the Model School. The work is under the direct supervision of the training teacher. Special attention is paid to primary instruction. Two full courses.

4.—SCHOOL LAW. Recitations. Revised school law of Colorado. One-fifth course.

5.—HISTORICAL. History of the culture of different nations from the earliest times. Education in China,



Japan, India, Egypt, Greece, Rome, England, France and Germany. Modern ideal in education. Individuals whose influence has been marked in educational affairs: Lycurgus, Solon, Pythagoras, Socrates, Plato, Aristotle, Numa Pompilius, Cicero, Seneca, Quintilian, Bacon, Comenius, Locke, Francke, Rousseau, Pestalozzi, Frœbel. Recitations and lectures. Full course.

6.—HISTORICAL. National systems of education (Modern): English, French, German. Special study of American system. Relations of Nation and State to common education. Discussion upon educational topics. Recitations and lectures. Three-fifths course.

7.—PSYCHOLOGY. Mental Science, as compared with other sciences. Definition and Classification of mental powers. Consciousness. Attention. Conception. Sense-Perception. Theories concerning Sense-Perception. This subject will be taught with a view to its practical application in the school-room. Recitations. Text-book: Mental Science and Methods of Mental Culture. Three-fifths course.

8.—SCHOOL ECONOMY. Review of branches of instruction in common schools. Recitations. Full course.

9.—SCHOOL ECONOMY. General principles governing the presentation of the branches at different stages of the pupil's progress. Methods of teaching Reading, Arithmetic, Algebra, Geometry, English Grammar, History, Geography, Map Drawing, Penmanship. Recitations and lectures. Full course.

10.—SCHOOL ECONOMY. School Sites. School Grounds, their arrangement. School Grades, Studies, Furniture, Apparatus and Records. Organization of Schools. Study. Recitations, methods of conducting. Exercise. School Ethics. Rewards and punishments. School Administration. Teacher as master. Teachers'

motives, preparation, duties and life. Methods of instruction. Teaching the alphabet. The word method. The phonic method. Instruction in number. Illustrations. Grube's Method. Recitations and lectures. Three-fifths course.

11.—PHILOSOPHY OF EDUCATION. Education: General and special. Habits. Moral deformity. Corporal punishment. Physical, intellectual and moral. Order and methods of presentation of knowledge. Intuitive, imaginative and logical epochs. How man is taught. Social, moral and religious culture. Systems of education: National, State. Gymnasias, secondary schools, colleges and universities. Technical schools. Recitations. Text book. Rosenkranz's *Pedagogics as a system*. Four-fifths course.

This work is open to all pupils who have had the work of the first two years of the Preparatory School, or its equivalent. (See Preparatory School course of study.) It must be taken in the following order: First year, numbers 1, 2, 4 and 5; also, one full course of number 3. Second year, numbers 7, 8 and 9; also, the remaining course of number 3. Numbers 6, 10 and 11 are open to students who desire them. The Faculty reserves the right to substitute for any of the required courses what is deemed an equivalent in the optional numbers.

A Normal School has one aim. It exists for the preparation of teachers. What its curriculum contains must be determined by the needs of teachers.

The State University, standing at the head of the public schools, is called to supply teachers for all grades of schools, from the lowest to the highest. No opportunity for special professional training has heretofore been given those who are pursuing Preparatory and Collegiate branches. On this account the work of the Normal School has been so arranged that with but a slight change the pupils of the Preparatory School can pursue

branches fitting them for teaching; and College students who choose may elect any of the Courses in Pedagogy.

The work is arranged in courses and the time for the study of each course is mentioned in connection therewith. It will be seen that more courses are offered than are required for graduation. These additional courses are optional.

A Model School, where pupils may put in practice principles and theories, is a very necessary adjunct to a Normal School. The Board of Regents has taken the necessary steps toward the establishment of a Model Department in connection with the Normal School. Here the students are expected to take classes, and teach under the supervision of the training teacher, who observes the work, points out defects, and seeks to lead the pupils to practice understandingly right principles of teaching.

For graduates of the Normal School there are two grades of Diplomas. The first is granted to those who complete the work prescribed for the course of four years. [See Degrees]. The second, which is of a higher grade, is granted to those who, besides completing the prescribed work of the Preparatory School, have completed the required courses of pedagogical work. This work will require for the average pupil five years.

Among the advantages of having the State Normal School in connection with the State University are the following: (1) The pupils come in contact with and are aroused by the University spirit. (2) The pupils have opportunities for better instruction. (3) It permits a more extended course and hence tends to raise the grade of scholarship among the teachers of the State.



MEDICAL DEPARTMENT.

# FACULTY OF THE MEDICAL DEPARTMENT.

---

JOSEPH A. SEWALL, M. D., LL.D.,

Chemistry.

---

WILLIAM R. WHITEHEAD, M. D.,

Anatomy and Surgery.

---

CHARLES AMBROOK, M. D.,

Theory and Practice of Medicine.

---

JAMES H. KIMBALL, M. D.,

Physiology, Materia Medica and Therapeutics.

---

THOMAS H. EVERTS, M. D.,

Obstetrics and Diseases of Women.

---

H. W. McLAUTHLIN, M. D.,

Pathology and Histology.

---

GEORGE CLEARY, M. D.,

Ophthalmology and Otology.



## Announcement.

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The people of Colorado have ever shown a ready appreciation of the advantages of public education. The State is largely settled by intelligent and educated persons from all parts of the United States and from nearly every part of the civilized world. The vigorous growth and rapid development of Colorado are not more remarkable than the excellence and extent of its admirable public school system. The University of Colorado forms a part of the public educational system of the State, and in accordance with the law of the State aims to complete the work of the public schools by offering to all persons of either sex, who are qualified for admission, a liberal education in the Arts, the Sciences and Literature, *without charge for tuition*

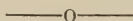
The object of the establishment of this Department is to secure a good medical education for those who may in the future be entrusted with the lives and with the health of our citizens. The Regents believe that the lives and health of the people of Colorado are not second in importance to any other interest that can be subserved by the State University. The Medical Department of the University, like the other Departments of this institution, assumes no unjustifiable superiority over other colleges. It aims to emulate the best schools, but chooses to establish its own standard. The State of Colorado, through the Medical Department of its State University, offers no facile inducements to graduation, but proposes to serve the best interest of the citizens of the State.

The University of Colorado, with its different Departments, is established by the Constitution of the State at

the beautiful little city of Boulder, which contains a population of nearly five thousand inhabitants, and is most picturesquely situated at the mouth of Boulder Canon.

Boulder is situated about thirty miles from Denver, and is easily accessible by rail from all parts of the State. Reduced railroad rates can be obtained by all students who attend the University.

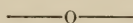
The session commences on Wednesday, the 10th day of September, 1884, and ends on the 3d day of June, 1885.



### REQUIREMENTS FOR ADMISSION.

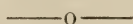
Each candidate must present satisfactory evidence of sufficient qualifications to receive medical instruction, as follows: A literary or scientific degree; a High School diploma; or be required to write, in the presence of the examiner, a satisfactory application for admission, containing an account of his educational opportunities and acquirements, and then read this statement to the examiner, who will receive and file it, as the property of the department, for future reference.

The candidate will further receive a thorough examination in the branches of a good English education, including mathematics and natural philosophy.



### SEXES.

By the provisions of the law for the government of the University, both sexes are received upon equal terms.

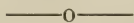


### COURSE OF INSTRUCTION.

As the course of instruction extends over a term of three years, with a nine-months' session in each year, there is no necessity of a long array of teachers, or of

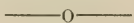
crowding the various branches upon the minds of the students. It is intended that the student shall have ample time to master each subject; and especially is it designed that the fundamental branches, such as anatomy, chemistry, materia medica, and medical pharmacy, shall be understood before burdening the mind with the more advanced studies of the course.

Oral examinations upon the previous instruction given upon the subject, will precede each lecture and clinic. These examinations will be taken into account in determining the standing of the student at graduation.



### ADVANCED STANDING.

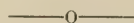
To those who by examination prove their qualifications, advanced standing in the classes will be given.



### REQUIREMENTS FOR GRADUATION.

The candidate must be twenty-one years of age, of good character, and the oral and written examinations satisfactory to the Faculty.

While a three-years' course is recommended it is not obligatory, the aim being to properly qualify the student for the duties of the profession, and the student may present himself for examination at the expiration of any collegiate year, and if found qualified will be given the degree of Doctor of Medicine; *Provided*, That there shall not be less than three full years of study before graduation, including the time spent with a preceptor at clinics, hospital, and attendance upon lectures, which shall consist of not less than two full courses.

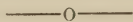


### CHEMICAL LABORATORY.

Every facility for the study of chemistry is afforded. The laboratory and apparatus is complete and furnished with all the modern appliances.

## ANATOMY.

Ample facilities will be afforded for the study of practical anatomy, and no charges will be made for anatomical material.

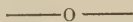


## HOSPITAL.



UNIVERSITY HOSPITAL AT BOULDER, COLORADO.

A well arranged and commodious hospital, established on the University grounds and under the charge of the Medical Faculty, is open to patients resorting to the college for treatment.



## CLINICAL INSTRUCTION.

Clinical instruction will form a prominent feature of the course. The customary medical and surgical clinics will be held at the hospital. The bedside instruction will be thorough, under the guidance of the teachers. Each student as he advances will be afforded ample opportunities for the exercise of his skill.

In this way it is expected that by the time the student becomes a graduate, he will have such a fund of practical, as well as theoretical knowledge, that when cast upon his own resources he will be able to successfully perform the duties of the profession.

## COURSE OF STUDY.

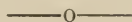
The course of study consists of a graded course of three years, of nine months each year.

In this course the studies are so arranged that they may be pursued in the following order :

*First Year.*—Anatomy, Histology, Physiology, Chemistry, Materia Medica, Therapeutics and Botany.

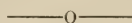
*Second Year.*—Continuation in review of Anatomy, Histology, Physiology, Chemistry, Materia Medica and Therapeutics, Pathology, Practice of Medicine, Surgery and Obstetrics.

*Third Year.*—Practice of Medicine, Surgery, Obstetrics, Diseases of Women and Children, Ophthalmology, Otology, Clinical Medicine and Surgery, Clinical Gynecology, Hygiene and Preventive Medicine.



## FEES.

Matriculation Fee Five Dollars. Graduation and Diploma Fee Ten Dollars. Tuition free.



## LIST OF TEXT AND REFERENCE BOOKS.

*Botany*—Sachs, Gray, Bessey.

*Chemistry*—Bloxam, Roscoe, Appleton.

*Anatomy*—Gray, Heath.

*Physiology*—Dalton, Foster, Flint, Yeo's Manual.

*Materia Medica*—H. C. Wood, Bartholow.

*Medicine*—Palmer, Flint, Wood, Bartholow.

*Obstetrics*—Cazeaux, Leishman, Barker.

*Diseases of Women*—Thomas, Byford, Goodell, Tilt.

*Diseases of Children*—Meigs and Pepper, Smith, Ellis.

*Diseases of the Eye*—Williams, Wells, Carter.



*Diseases of the Ear*—Turnbull, Burnett, Roosa.

*Histology*—Cornil and Ranvier, Satterthwaite.

*Pathology*—Billroth, Coates, Woodhead.

*Medical Jurisprudence*—Taylor, Wormley, Stille.

*Hygiene and Public Health*—Buck.

*Microscopy*—Frey, Beale.

*For Reference*—Dunglison's Dictionary, United States  
and National Dispensatories.



# School of Pharmacy

## IN THE DEPARTMENT OF MEDICINE.

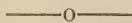
To those desirous of qualifying themselves for the pharmaceutical profession the following course of instruction is offered—the course extends over a term of two years, with a nine-months' session in each year:

*First Year*—Botany, General Chemistry, Analytical Chemistry—qualitative and quantitative, Materia Medica and Pharmacy.

*Second Year*—Botany, Materia Medica, Crystallography, Pharmaceutical Chemistry, Urinalysis, Toxicology, the Preparation of the Official Articles of the United States Pharmacopoeia, Compounding Prescriptions and Drug Assays.

Students can enter for any part of a course and certificates of proficiency will be given.

Candidates for graduation must so announce themselves three months before the expiration of a collegiate year, and if upon final examination they are found qualified, the degree of Pharmaceutical Chemist will be granted.



### LIST OF TEXT AND REFERENCE BOOKS.

*Botany*—Sachs, Gray, Bessey.

*Chemistry*—Bloxam, Roscoe, Appleton.

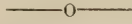
*Materia Medica*—H. C. Wood, United States and National Dispensatories.

*Pharmacy*—Parrish.

*Urinalysis*—Bowman's Medical Chemistry, Neubauer and Vogel.

*Toxicology*—Reese, Wormley.

*Microscopy*—Frey, Beale.



For further particulars apply to

J. A. SEWALL, M. D., LL. D.,

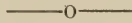
DEAN OF THE MEDICAL FACULTY,

Boulder, Colorado.

Or to the Secretary,

JAMES H. KIMBALL, M. D.,

Steele Block, Denver, Colorado.



#### LIST OF STUDENTS.

James O. Allen . . . . .	Colorado.
Newton D. Estes . . . . .	"
Jacob Groesbeck . . . . .	"
Benjamin L. Holstein, B. S. . . . .	"
Samuel M. Sampson . . . . .	"
Lambert Sternberg . . . . .	"
Harry A. Woodworth . . . . .	"
John V. Wilson, A. M. . . . .	"

# Catalogue of Students.

## COLLEGE.--13.

Beardsley, Helen L. . . . .	Boulder, Colorado.
Berkley, Josephine . . . . .	Boulder, "
Chase, Frederick L. . . . .	Boulder, "
Goodell, Albert J. . . . .	Central City, "
Holstein, Benjamin L. . . . .	Boulder, "
Johnson, Ernest E. . . . .	Ohio.
McLeod, Fannie . . . . .	Boulder, Colorado.
Rowland, Judson . . . . .	Boulder, "
Stanton, Timothy W. . . . .	Boulder, "
Thomas, William J. . . . .	Central City, "
Tyler, Bert . . . . .	Boulder, "
Tyler, Ella . . . . .	Boulder, "
Wolcott, E. O. . . . .	Boulder, "

—o—

## PREPARATORY SCHOOL.--100.

Allen, James O. . . . .	Boulder, Colorado.
Allen, Meda . . . . .	Boulder, "
Atkinson, Harry F. . . . .	Boulder, "
Ballard, Anna M. . . . .	Box Elder, "
Bean, Lillian F. . . . .	Boulder, "
Bellman, William L. . . . .	Boulder, "
Berkley, Lydia . . . . .	Boulder, "
Blake, James E. . . . .	Boulder, "
Bowler, Ruth . . . . .	Boulder, "
Bowler, Sallie . . . . .	Boulder, "
Braun, Oscar. . . . .	Germany.
Brown, Ira Ewart . . . . .	Boulder, Colorado.
**Campbell, Jacob . . . . .	Boulder, "

*Cantlon James M. . . . .	Georgetown, Colorado.
Carpenter, Ella B. . . . .	Black Hawk, "
Chase, Geo. A. . . . .	Boulder, "
Coffin, Geneva . . . . .	Longmont, "
Crawford, Lulie M. . . . .	Steamboat Springs.
Cronan, John L. . . . .	Central City, Colorado.
Culver, Annie E. . . . .	Boulder, "
Culver, George . . . . .	Poncha Springs, Col.
Culver, Robert L. . . . .	Boulder, "
Day, Flora . . . . .	Boulder, "
Dietrich, Lillian . . . . .	Boulder, "
Duncan, Guy . . . . .	Longmont, "
Estes, Charles F. . . . .	St. Vrain, "
Estes, Newton D. . . . .	St. Vrain, "
Estes, George F. . . . .	St. Vrain, "
Everts, Bessie H. . . . .	Boulder, "
Faivre, John . . . . .	Idaho Springs, Col.
Fullerton, Elizabeth . . . . .	Boulder, Colorado.
Fulton, Edgar L. . . . .	Boulder, "
Gilbert, Emma I. . . . .	Boulder, "
Glover, Joel Clark . . . . .	Ohio.
Graves, Clara A. . . . .	Boulder, Colorado.
Groesbeck, Jacob . . . . .	Boulder, "
Holbrook, Lizzie. . . . .	Illinois.
Holstein, Rose . . . . .	Boulder, Colorado.
Hooker, Daniel L. . . . .	Nevada.
Hough, May C. . . . .	Boulder, Colorado.
Hungerford, Alice F. . . . .	Denver, "
Ingersoll, Orpha M. . . . .	Boulder, "
Ingram, Edith . . . . .	Wisconsin.
Ingram, Estelle . . . . .	Wisconsin.
Ireland, Charles L. . . . .	Idaho Springs, Col.
Johnson, Georgie E. . . . .	Boulder, Colorado.
Johnson, Maggie E. . . . .	Boulder, "
Johnson, Mamie B. . . . .	Denver, "
Leonard, Frank . . . . .	Boulder, "
Locke, James . . . . .	Canon City, "

Lycan, Cora E. . . . .	Boulder, Colorado.
Mallon, James . . . . .	Boulder, “
Mason, Edward C. . . . .	Silver Cliff, “
Mayfield, Charles . . . . .	Longmont, “
McLeod, Sallie E. . . . .	Boulder, “
Mitchel, Julia M. . . . .	Canon City, “
Mossman, Irene . . . . .	Indiana.
Myers, Theodore . . . . .	Boulder, Colorado.
Noxon, Frank E. . . . .	Idaho Springs, Col.
Noxon, Victor I. . . . .	Idaho Springs, Col.
*Peabody, Henry . . . . .	Boulder, Colorado.
Peabody, Leila R. . . . .	Boulder, “
Pearson, Harry E. . . . .	Trinidad, “
Pease, Clarence H. . . . .	Boulder, “
Pierce, Charles H. . . . .	Boulder, “
Porter, Jennie V. . . . .	Boulder, “
Potter, Charles A. . . . .	Illinois.
Reid, Jessie . . . . .	Massachusetts.
Rust, Melvin M. . . . .	Boulder, Colorado.
Samson, Samuel M. . . . .	Boulder, “
Satchel, Maud L. . . . .	Boulder, “
Sewall, Carrie L. . . . .	Boulder, “
Sewall, Jennie . . . . .	Boulder, “
Sheldon, Cora E. . . . .	Boulder, “
Sheldon, Josie H. . . . .	Boulder, “
Sherman, Emma . . . . .	Leadville, “
Smith, Della . . . . .	Boulder, “
So Relle, Wiley E. . . . .	Colorado Springs, Col.
†Stanley, Horace M. . . . .	Silverton, Colorado.
Stanton, Lewis H. . . . .	Boulder, “
Sternberg, Emma L. . . . .	Boulder, “
Sternberg, Lambert . . . . .	Boulder, “
Sternberg, Mattie . . . . .	Boulder, “
Stevens, Effie . . . . .	Boulder, “
Stewart, John F. . . . .	Boulder, “
Terry, Nora E. . . . .	Longmont, “
Teters, Wilbertine . . . . .	Boulder, “

Thompson, Elizabeth B. . . . .	Michigan.
Thompson, Guy V. G. . . . .	Michigan.
Thompson, Nellie . . . . .	Boulder, Colorado.
Tyler, Frank . . . . .	Boulder, “
Tyler, Fred. . . . .	Boulder, “
Van Deren, Lloyd . . . . .	Boulder, “
Walker, Lulu A. . . . .	Boulder, “
†Warner, Henry L. . . . .	Idaho Springs, Col.
Washburne, Lomie L. . . . .	Boulder, Colorado.
Wellman, Ollie . . . . .	Boulder, “
Wise, Kate . . . . .	Evans, “
Withers, Rebecca A. . . . .	Pueblo, “
Woodworth, Harry A. . . . .	Longmont, “

\*\*Suspended.

\*Dropped from the roll.

†Deceased.

‡Expelled.

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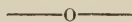
### NORMAL SCHOOL,--31.

Andrews, James E. . . . .	Black Hawk, Col.
Andrews, Lillian . . . . .	Valmont, Colorado.
Barney, Evalyn . . . . .	Boulder, “
Billingsley, Ella . . . . .	Telluride, “
Billingsley, Lucetta C. . . . .	Telluride, “
Buck, Hattie . . . . .	Boulder, “
Burke, Frank . . . . .	Boulder, “
Denison, Bertie . . . . .	Valmont, “
Edwards, Sarah E. . . . .	Salina, “
Gay, Lizzie S. . . . .	Illinois.
*Glaze, Cora . . . . .	Leadville, Colorado.
Green, George W. . . . .	Boulder, “
Hacker, Ida L. . . . .	Boulder, “
Ingersoll, Orpha . . . . .	Boulder, “
Jackson, Carrie . . . . .	Boulder, “
Kellogg, Emily . . . . .	Pueblo, “
Kellogg, Hattie . . . . .	Washington Ter.
Kellogg, Lou . . . . .	Pueblo, Colorado.



Kellogg, Maude . . . . .	Washington Ter.
Kempton, Della . . . . .	Longmont, Colorado.
Mitchel, Julia M. . . . .	Canon City, “
Mossman, Ella . . . . .	Indiana.
Niles, Gertrude L. . . . .	Boulder, Colorado.
Satchel, Maud L. . . . .	Boulder, “
Sewall, Carrie L. . . . .	Boulder, “
So Relle, Wiley E. . . . .	Colorado Springs, Col.
Stevens, Effie . . . . .	Boulder, Colorado.
Swallow, Allie . . . . .	Wisconsin.
Taylor, Terzah J. . . . .	Wisconsin.
Thompson, Nellie . . . . .	Boulder, Colorado.
Wolfe, Annie . . . . .	Longmont, “

\*Dropped from the roll.



#### CONSERVATORY OF MUSIC --17.

Barney, Evalyn . . . . .	Boulder, Colorado.
Blake, Mrs. F. O. . . . .	Boulder, “
Bush, A. W. . . . .	Boulder, “
Estes, Newton D. . . . .	Boulder, “
Everts, Bessie H. . . . .	Boulder, “
Frerker, Theodore . . . . .	Boulder, “
Glover, Joel C. . . . .	Ohio.
Green, Mrs. O. F. A. . . . .	Boulder, Colorado.
Holstein, Rose . . . . .	Boulder, “
Johnson, Madge . . . . .	Denver, “
Melette, John J. . . . .	Boulder, “
Rush, Nellie . . . . .	Boulder, “
Sewall, Carrie . . . . .	Boulder, “
Sewall, Jennie . . . . .	Boulder, “
Sternberg, Emma . . . . .	Boulder, “
Tyler, Bert . . . . .	Boulder, “
Tyler, Ella . . . . .	Boulder, “

## SUMMARY.

College . . . . .	13
Preparatory School . . . . .	100
Normal School . . . . .	31
Medical School (See Medical Catalogue.)	
Conservatory of Music . . . . .	17
<hr/>	
Total . . . . .	161
Names counted twice . . . . .	17
<hr/>	
Number enrolled . . . . .	144
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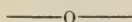
It will be noticed that a large number of the students enumerated above are from Boulder. In many instances this arises from the fact that parents have become citizens of this place by residing here for the sole purpose of taking advantage of the educational facilities here offered. Therefore the children of these parents appear in the catalogue from Boulder.

# ANNOUNCEMENTS FOR 1884-85.

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## COLLEGE.

First Semester begins . . . . .	September 10, 1884.
Holiday Recess commences . . . .	December 20, 1884.
Exercises resumed . . . . .	January 5, 1885.
First Semester closes . . . . .	January 30, 1885.
Second Semester begins . . . . .	February 2, 1885.
Recess of one week commencing . .	March 28, 1885.
Second Semester closes . . . . .	June 12, 1885.
Commencement . . . . .	June 3, 1885.
Examinations for admission . . .	June 9, Sept. 9, 1884



## PREPARATORY SCHOOL AND NORMAL SCHOOL.

First Term begins . . . . .	September 10, 1884.
First Term closes . . . . .	December 19, 1884.
Holiday vacation commences . . .	December 20, 1884.
Second Term begins . . . . .	January 5, 1885.
Second Term closes . . . . .	March 27, 1885.
Recess of one week commences . .	March 28, 1885.
Third Term begins . . . . .	April 6, 1885.
Third Term closes . . . . .	June 12, 1885.
Commencement . . . . .	June 2, 1885.
Examinations for admission . . .	June 9, Sept. 9, 1884.



CATALOGUE

OF THE

UNIVERSITY OF COLORADO,

BOULDER, COLORADO.

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SEPT., 1884—JUNE, 1886.

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DENVER, COLO.:  
THE TIMES PRINTING COMPANY.  
1886.

## CALENDAR.

1886.							1886.							1887.						
JUNE.							NOVEMBER.							APRIL.						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
.	.	1	2	3	4	5	.	1	2	3	4	5	6	.	.	.	.	.	1	2
6	7	8	9	10	11	12	7	8	9	10	11	12	13	3	4	5	6	7	8	9
13	14	15	16	17	18	19	14	15	16	17	18	19	20	10	11	12	13	14	15	16
20	21	22	23	24	25	26	21	22	23	24	25	26	27	17	18	19	20	21	22	23
27	28	29	30	.	.	.	28	29	30	.	.	.	.	24	25	26	27	28	29	30
JULY.							DECEMBER.							MAY.						
.	.	.	.	1	2	3	.	.	.	1	2	3	4	1	2	3	4	5	6	7
4	5	6	7	8	9	10	5	6	7	8	9	10	11	8	9	10	11	12	13	14
11	12	13	14	15	16	17	12	13	14	15	16	17	18	15	16	17	18	19	20	21
18	19	20	21	22	23	24	19	20	21	22	23	24	25	22	23	24	25	26	27	28
25	26	27	28	29	30	31	26	27	28	29	30	31	.	29	30	31	.	.	.	.
AUGUST.							JANUARY.—1887.							JUNE.						
1	2	3	4	5	6	7	.	.	.	.	.	.	1	.	.	.	1	2	3	4
8	9	10	11	12	13	14	2	3	4	5	6	7	8	5	6	7	8	9	10	11
15	16	17	18	19	20	21	9	10	11	12	13	14	15	12	13	14	15	16	17	18
22	23	24	25	26	27	28	16	17	18	19	20	21	22	19	20	21	22	23	24	25
29	30	31	.	.	.	.	23	24	25	26	27	28	29	26	27	28	29	30	.	.
.	.	.	.	.	.	.	30	31	.	.	.	.	.	.	.	.	.	.	.	.
SEPTEMBER.							FEBRUARY.							JULY.						
.	.	.	1	2	3	4	.	.	1	2	3	4	5	.	.	.	.	.	1	2
5	6	7	8	9	10	11	6	7	8	9	10	11	12	3	4	5	6	7	8	9
12	13	14	15	16	17	18	13	14	15	16	17	18	19	10	11	12	13	14	15	16
19	20	21	22	23	24	25	20	21	22	23	24	25	26	17	18	19	20	21	22	23
26	27	28	29	30	.	.	27	28	.	.	.	.	.	24	25	26	27	28	29	30
.	.	.	.	.	.	.	.	.	.	.	.	.	.	31	.	.	.	.	.	.
OCTOBER.							MARCH.							AUGUST.						
.	.	.	.	.	1	2	.	.	1	2	3	4	5	.	1	2	3	4	5	6
3	4	5	6	7	8	9	6	7	8	9	10	11	12	7	8	9	10	11	12	13
10	11	12	13	14	15	16	13	14	15	16	17	18	19	14	15	16	17	18	19	20
17	18	19	20	21	22	23	20	21	22	23	24	25	26	21	22	23	24	25	26	27
24	25	26	27	28	29	30	27	28	29	30	31	.	.	28	29	30	31	.	.	.
31	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.



## ANNOUNCEMENTS.

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COMMENCEMENT . . . . . June 2, 1886.  
EXAMINATIONS FOR ADMISSION . . June 7; Sept. 7, 1886.  
FIRST SEMESTER WILL BEGIN . . . . . Sept. 8, 1886.  
WINTER RECESS . . . . . Dec. 18, '86, to Jan. 2, '87.  
EXERCISES RESUMED . . . . . Jan. 3, 1887.  
FIRST SEMESTER WILL CLOSE . . . . . Jan. 28, 1887.  
SECOND SEMESTER WILL BEGIN . . . . . Jan. 31, 1887.  
SPRING RECESS . . . . . March 26 to Apr. 3, 1887.  
COMMENCEMENT . . . . . May 31, 1887.  
EXAMINATIONS FOR ADMISSION . . . . . May 28, 1887.

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## PREPARATORY AND NORMAL SCHOOLS.

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THIRD TERM CLOSES . . . . . June 2, 1886.  
FIRST TERM WILL BEGIN . . . . . Sept. 8, 1886.  
FIRST TERM WILL CLOSE . . . . . Dec. 17, 1886.  
SECOND TERM WILL BEGIN . . . . . Jan. 3, 1887.  
SECOND TERM WILL CLOSE . . . . . March 25, 1887.  
THIRD TERM WILL BEGIN . . . . . April 4, 1887.  
THIRD TERM WILL CLOSE . . . . . May 31, 1887.  
EXAMINATIONS FOR ADMISSION. . . June 7; Sept. 7, 1886.

3-716

## BOARD OF REGENTS.

---

MAX HERMAN,	<i>Leadville,</i>	Term expires, 1886.
JOSEPH C. SHATTUCK,	<i>Denver,</i>	Term expires, 1886.
JAMES RICE,	<i>Pueblo,</i>	Term expires, 1888.
LEONIDAS S. CORNELL,	<i>Denver,</i>	Term expires, 1888.
ROGER W. WOODBURY,	<i>Denver,</i>	Term expires, 1890.
*CLINTON M. TYLER,	<i>Boulder,</i>	Term expires, 1890.
E. J. TEMPLE,	<i>Boulder,</i>	Term expires, 1886.

---

## OFFICERS OF THE BOARD.

---

JOSEPH A. SEWALL,	-	President.
JOSEPH C. SHATTUCK,	- -	Secretary.
CHARLES L. SPENCER,	-	Treasurer.

\*Deceased.

## FACULTY AND INSTRUCTORS.

---

JOSEPH A. SEWALL, M. D., LL. D., PRESIDENT,  
*Professor of Chemistry and Metallurgy.*

I. C. DENNETT, A. M.,  
*Professor of Latin.*

PAUL H. HANUS, B. S.,  
*Professor of Mathematics.*

MARY RIPPON,  
*Professor of German and French.*

JAMES W. BELL, Ph. D. (Leipzig),  
*Professor of Political Economy and History.*

J. RAYMOND BRACKETT, Ph. D. (Yale),  
*Professor of English Literature and Greek.*

JAMES H. KIMBALL, M. D.,  
*Professor of Principles and Practice of Medicine, Materia  
Medica, and Therapeutics.*

H. W. McLAUTHLIN, M. D.,  
*Professor of Obstetrics and Diseases of Women and Children.*

GEORGE CLEARY, M. D.,

*Professor of Surgery, Ophthalmology, and Otology.*

W. J. WAGGENER, A. M.,

*Professor of Physical Sciences.*

HON. PLATT ROGERS,

*Lecturer on Medical Jurisprudence.*

L. M. GIFFIN, M. D.,

*Professor of Anatomy and Physiology.*

R. N. MAYFIELD, M. D.,

*Lecturer on Pathology and Hygiene.*

## GENERAL STATEMENT.

---

The Constitution of the State of Colorado provides for the election of a Board of Regents of the University and defines its duties. The organic act, establishing the University and providing for its maintenance, was passed by the General Assembly of Colorado, March 15, 1877. Its object, as defined by that act, is "*to provide the best and most efficient means of imparting to young men and women, on equal terms, a liberal education and thorough knowledge of the different branches of literature, the arts and sciences, with their varied applications.*"

### HISTORY.

The University of Colorado was incorporated by an act of the Territorial Legislature of 1860, and the location fixed at Boulder. In 1871 three public-spirited citizens donated to the University fifty-two acres of land adjoining the city, valued at \$5,000. In 1874 the Territorial Legislature appropriated \$15,000, and the citizens of Boulder contributed a like sum in cash. In 1875 Congress set apart and reserved seventy-two sections of the public lands for the support of the State University. In 1876 the Constitution of Colorado provided that upon its adoption the University at Boulder should become an institution of the State, thus entitling it to the lands appropriated by Congress, and further made provisions for the management and control of the University. The first General Assembly of the State made provision for its permanent support by a levy of a tax of one-fifth of a mill upon the property

of the State; also for a fund to be secured by the sale of the lands donated by the United States.

The Institution was opened September, 1877, with two teachers and forty-four pupils.

In 1878 the General Assembly appropriated \$7,000 for apparatus, furniture, etc. In 1883 the General Assembly provided a special fund by a tax levy of one-fifth of a mill for the years 1883 and 1884, yielding about \$40,000. This fund has been expended for books, apparatus, furniture, additional buildings, and for the improvement of the grounds. The State has provided liberally for the maintenance of the University, and affords her sons and daughters facilities for acquiring a thorough education.

#### LOCATION.

The University has a beautiful situation upon the high grounds on the south side of Boulder creek, and overlooks the city of Boulder. The scenery is not surpassed, if equaled, in the whole Rocky Mountain region. To the west are seen the boldest and highest foot-hills of the range, and far away the ever snow-capped summit of Arapahoe Peak. On the south rise the beautiful *mesas* or table lands; while to the north and east as far as the eye can reach extend fertile plains, dotted with lakes, and in June beautifully green with crops of cereals. The tourist may find in Boulder, South Boulder, and Bear Canons, and on the road to Sunshine and Gold Hill, scenery as grand, varied, and beautiful as any in the State, or even in Switzerland. The climate is all that could be desired, neither excessively warm in summer nor cold in winter, and seems particularly favorable to the exercise of the intellectual faculties. The close proximity of some of the richest mines of the State, and the extensive reduction works where the crude ore is treated, afford students of chemistry



and metallurgy rare opportunities for obtaining a practical knowledge of these sciences.

### BUILDINGS.

The corner-stone of the main structure was laid September 20, 1875; the building is about sixty feet by one hundred and has been completed at a cost of forty-five thousand dollars. The basement contains the armory, music room, janitor's quarters, and a society room; on the first floor are three recitation rooms, the offices, and a fine auditorium; the library is on the second floor, and the chemical laboratory on the third.

Four new buildings have been erected—the President's house, two cottages, and the hospital. All the buildings are of brick; four are supplied with bathrooms and three with hot water. The students' cottages offer neat and healthful accommodations at very low rates.

### APPARATUS AND CABINET.

Nearly three thousand dollars' worth of apparatus has been purchased during the last year. Almost every branch of physics can be illustrated by instruments of the latest design.

The Cabinet contains a valuable collection of minerals and specimens to illustrate the geology, natural history and botany of the Northwest. The Herbarium contains over seven hundred specimens from Colorado, and has been arranged with great care in accordance with Gray's Manual of Botany. A collection of corals and shells, and a collection of fossils and rocks illustrating the geology of Colorado, have recently been added.

J. Alden Smith, State Geologist, donated his cabinet of minerals, one of the best arranged in the United States, the cash value of which is at least \$5,000.

## CHEMICAL LABORATORY.

The appliances for the theoretical and practical study of Chemistry have been greatly improved and extended from year to year. One half of an entire story of the building has been devoted to the Chemical Laboratory, weighing room, and chemical store room. The Laboratory is *complete*. Four thousand dollars have been expended in making this Laboratory equal to the best in the country. For laboratory practice each student has the exclusive use of a table supplied with a complete set of re-agents and the necessary apparatus for experimental work. The weighing room adjoining the Laboratory is supplied with a Troemner's assay balance, Troemner's ore scale, and two Becker & Son's analytical balances. Adjoining the Laboratory is the chemical store room. The stock of chemicals from the celebrated house of H. Trommsdorf, in Erfurt, is entirely adequate to the most complete and extended course of study in the department of Chemistry.

Aside from the advantages offered by the Laboratory for the study of metallurgy, the gold and silver mines of Boulder County and the reduction works of Boulder and vicinity offer rare facilities for obtaining a knowledge of the treatment of ores.

## LIBRARY AND READING ROOM.

The Library is named in honor of C. G. Buckingham, of Boulder. The Regents have appropriated a sum equal to the matriculation fees for the support of the Reading Room. Two thousand five hundred dollars have been expended for books within the last two years. The Librarian, or an assistant, is in attendance during library hours to render such aid in the selection of books as may be desired. Students have free access

to the books, but are not allowed to take them from the room without receipting for the same.

A well-furnished Reading Room, containing the leading periodicals, magazines and reviews, is open to all upon the payment of one dollar per annum. The following is a partial list of the periodicals regularly received:

North American Review,	Journal of Speculative
Contemporary Review,	Philosophy,
Fortnightly Review,	American Journal of
Edinburgh Review,	Philology,
Quarterly Review,	Anglia,
British Quarterly Review,	Englische Studien,
Westminster Review,	Nature,
Blackwood's Magazine,	American Naturalist,
Nineteenth Century,	American Chemical Journal,
Atlantic Monthly,	Popular Science Monthly,
Harper's Monthly,	Science,
Century,	Electrical Review,
Nation,	American Journal of Mathe-
Education,	matics,
New Englander,	Nouvelles Annales de Mathe-
Library Journal,	matiques,
Fliegende Blaetter,	Messenger of Mathematics,
Deutsche Rundschau,	Journal fuer die Reine und
Revue des Deux Mondes,	Angewandte Mathematik,
Journal des Economistes,	Colorado Daily and Weekly
Mind,	Papers.

#### LITERARY SOCIETY.

The Philomathean Society is open to students of all departments, and has become a valuable means of discipline and culture.

## FEES AND EXPENSES.

There is no charge to residents of the State for tuition.

The fees and expenses are as follows:

A reading-room fee of one dollar per annum; a matriculation fee of five dollars for residents of the State, and ten dollars for non-residents; and an annual fee of fifteen dollars for non-residents.

These fees are payable in advance.

Students who pursue Laboratory courses of study are required to pay for the materials and apparatus actually consumed by them. The Laboratory expenses of students will vary with their prudence and economy.

In the Medical Department there is a fee of ten dollars for graduation and diploma.

Students obtain board and lodging in private families at four to six dollars a week. Room rent varies from one to two dollars a week for each student.

Since January 5, 1885, students living in the cottages erected on the campus have been subject to the following *fixed rates*:

Table board, fuel, lamp oil, unfurnished	
room, per week,        -        -        -	\$4 00
For any part of a week, per meal, -        -	20
For dinners only,        -        -        -	33
For unfurnished room, fuel, and lamp oil,	
per month,        -        -        -        -        -	3 50

Board and room money must be paid in advance for each month.

The cost of washing at the cottage laundry averages forty-eight cents a dozen; in town, seventy-five cents.

There is no charge for the use of bath-rooms.

Two hundred dollars a year will pay all University bills and necessary expenses for board, fuel, lights, washing, books, and stationery.

Rooms will be assigned the first day of the fall term. Application may be made at any time. Storage will be provided for furniture during the summer vacation.

## DEPARTMENTS.

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The departments of instruction in the UNIVERSITY OF COLORADO have been comprehended under four divisions, as follows:—

The Department of PHILOSOPHY AND THE ARTS.

\*The Department of MEDICINE.

The NORMAL SCHOOL.

The PREPARATORY SCHOOL.

The department of PHILOSOPHY AND THE ARTS includes courses leading to the degrees of Bachelor of Arts, Bachelor of Philosophy, Bachelor of Science, and Bachelor of Letters.

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\*Issues a separate circular. Address JAMES H. KIMBALL, M. D., Steele Block, Denver, Colo.



DEPARTMENT

—OF—

PHILOSOPHY AND THE ARTS.

# FACULTY.

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JOSEPH A. SEWALL, M. D., LL. D., PRESIDENT.

I. C. DENNETT, A. M.

PAUL H. HANUS, B. S.

MARY RIPPON.

JAMES W. BELL, Ph. D.

J. RAYMOND BRACKETT, Ph. D.

W. J. WAGGENER, A. M.

## REQUIREMENTS FOR ADMISSION.

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There are four examinations. Students are advised to prepare for I. rather than for II.; for II. rather than for III.; and for III. rather than for IV. IV. has been added for those who come from schools where foreign languages are not taught.

Students who pass a satisfactory examination on seventy per cent of the subjects required may enter conditioned on the remainder. Conditioned students will make up deficiencies by recitation in the Preparatory School of the University.

### I. CANDIDATES FOR THE DEGREE OF BACHELOR OF ARTS.

In 1885-6 candidates for Courses leading to the degree of Bachelor of Arts will be examined in the following subjects:

1. LATIN.—Elements of Grammar; Tetlow's Latin Lessons, or an equivalent; the translation at sight of easy Latin prose; the translation into Latin of simple English sentences suitable to those who have taken Jones's Composition; Cæsar, four books; Cicero, six orations; Virgil, the whole of the Aeneid. For the last six books of the Aeneid all the Eclogues and Georgics, or the Georgics and 2,500 lines of Ovid may be substituted.

2. GREEK.—White's First Lessons; Hadley's or Goodwin's Greek Grammar; Xenophon's Anabasis, three books; Iliad, two books, omitting the catalogue of ships; translation into Greek of simple sentences suitable to students who have taken Jones's Greek Prose Composition.

3. HISTORY AND GEOGRAPHY.—Outlines of General History; Roman History to the death of Commodus; the Geography connected with the study of Greek and Roman History, and the Greek and Latin authors read.

4. MATHEMATICS.—*Arithmetic*.—Fundamental Rules, Fractions, Denominate Numbers, Percentage, Proportion.

*Algebra*.—Fundamental Rules, Fractions, Simple Equations, Elimination, Involution, Evolution, Calculus of Radicals, Quadratic Equations, Ratio, Proportion, Progressions. (Olney's Complete School Algebra.)

*Geometry*.—Plane and Solid Geometry. (Chauvenet.)

5. ENGLISH.—Hart's Rhetoric, complete; Kellogg's English Literature, complete.

Students passing an examination on all the above will be admitted to any courses.

## II. CANDIDATES FOR THE DEGREE OF BACHELOR OF PHILOSOPHY.

Candidates for Courses leading to the degree of Bachelor of Philosophy will be examined on 1, 3, 4, 5 under I., and on English Analysis, Parsing, and History of England. In place of Greek, translation of French at sight; the elements of Physiology and of Physics; one year's German.

Students passing an examination on the above are also qualified to enter courses leading to the degrees B. S. and B. L.

## III. CANDIDATES FOR THE DEGREE OF BACHELOR OF SCIENCE.

Candidates for Courses leading to the degree of Bachelor of Science will be examined on the following subjects:

1. ENGLISH LANGUAGE, MATHEMATICS, HISTORY, PHYSICS, AND PHYSIOLOGY.—The same as under II., excepting Roman History.

2. GERMAN.—Principles of German Grammar (Whitney's or Otto's Preferred); translation from English into German, and sight translations from ordinary German into English.

3. GEOGRAPHY.—Houston's Physical Geography.

4. LATIN.—As under I. Or four Books of Cæsar, one year's French, Morse's First Book of Zoology, and Dana's Geological Story. Or four books of Cæsar, six books of Virgil, Zoology, and Geology.

5. BOTANY.—First twenty-seven chapters of Gray's Lessons.

6. CHEMISTRY.—The Elements of Inorganic Chemistry. (Eliot and Storer, or Roscoe.)

#### IV. CANDIDATES FOR THE DEGREE OF BACHELOR OF LETTERS.

Candidates for Courses leading to the degree of Bachelor of Letters will be received after passing a satisfactory examination in the following requirements:

A. ENGLISH.—1. Parsing. 2. Analysis. 3. Hart's Rhetoric, complete. 4. Kellogg's English Literature.

B. MATHEMATICS.—*Arithmetic*.—Fundamental Rules, Fractions, Denominate Numbers, Percentage, Proportion.

*Algebra*.—Fundamental Rules, Fractions, Simple Equations, Elimination, Involution, Evolution, Calculus of Radicals, Quadratic Equations, Ratio, Proportion, Progressions. (Olney's Complete School Algebra.)

*Geometry*.—Plane and Solid Geometry. (Chauvenet.)

C. HISTORY, GEOGRAPHY, ETC.—Outlines of General History; History of England; Civil Government; Houston's Physical Geography.

D. SCIENCE.—1. *Physiology*.—Hooker, Youman or Dalton.

2. *Physics*.—Elements of Natural Philosophy, (Gage.)

3. *Botany*.—First twenty-seven chapters of Gray's Lessons.

4. *Chemistry*.—The Elements of Inorganic Chemistry. (Eliot and Storer, or Roscoe.)

Students who pass this examination will be received in all courses that can be pursued without a knowledge of Latin, Greek, French and German.

Candidates will be credited, for advanced standing, with any work in addition to the above on which they pass a satisfactory examination.



## COURSES OF STUDY.

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The various branches taught are offered to the student in *courses of study*. A *full course of study*, as here used, means five exercises a week throughout a semester. The student is required to complete twenty-four full courses in order to obtain the recommendation of the Faculty for a degree. Some are prescribed, but sufficient option is given for the student to direct his training in accordance with his inclinations and adaptability.

Students who are candidates for a degree take the prescribed work and select in addition courses enough to make up the full amount of work required. Special students, that is, those not candidates for a degree, select such work as they desire from the courses pursued at the time.

No student will be permitted to change his course or drop any study, except by vote of the Faculty, and then only at the beginning of a semester.

All required courses will be given, but instructors may decline to give optional courses to less than five applicants. It is expected that each student will have an opportunity to pursue any course before taking his degree.

## COURSES FOR THE BACHELOR'S DEGREE.

## LATIN.

COURSE.	FIRST SEMESTER.	
1. . . . .	{ Livy, Prose Composition; four-fifths { Roman History; one-fifth . . . . .	Full Course.
2. . . . .	{ Horace; four fifths . . . . . { Private Reading (Epodes); one-fifth . . . . .	Full Course.
	SECOND SEMESTER.	
3. . . . .	{ Cicero (De Immortalitate); two-fifths . . . . . { Tacitus (Germania); two-fifths . . . . . { Private Reading; one-fifth . . . . .	Full Course.
4. . . . .	{ Juvenal; three-fifths . . . . . { Private Reading, Latin Prose; two-fifths . . . . . { Andria of Terence . . . . .	Full Course.
5. . . . .	{ Captives of Plautus . . . . . { Selections from Lucretius . . . . .	Full Course.

## COURSES FOR THE BACHELOR'S DEGREE.

## GREEK.

COURSE.		
6. . . . .	{ FIRST SEMESTER. . . . . The Iliad; History of Greece . . . . .	Full Course.
	{ SECOND SEMESTER . . . . . The Odyssey; Homeric Criticism . . . . .	Full Course.
7. . . . .	{ FIRST SEMESTER. . . . . Sophocles; Greek Literature . . . . .	Full Course.
	{ SECOND SEMESTER . . . . . Aeschylus; Euripides; Greek Art . . . . .	Full Course.
8. . . . .	{ FIRST SEMESTER. . . . . Lyric Poetry . . . . .	Two-fifths.
	{ SECOND SEMESTER . . . . . Aristophanes; Greek Comedy . . . . .	Three-fifths.
9. . . . .	{ FIRST SEMESTER. . . . . Greek Prose Composition. . . . .	Three-fifths.
	{ SECOND SEMESTER . . . . . Demosthenes (De Corona); Greek Oratory . . . . .	Two-fifths.
10. . . . .	{ FIRST SEMESTER. . . . . Memorabilia of Socrates . . . . .	Three-fifths.
	{ SECOND SEMESTER . . . . . Plato's Republic; Greek Philosophy . . . . .	Three-fifths.
11. . . . .	{ FIRST SEMESTER. . . . . Herodotus; History of Greece . . . . .	Two-fifths.
	{ SECOND SEMESTER . . . . . Thucydides; History of Greece . . . . .	Two-fifths.

All these Courses may be completed in four years. Students in Greek are advised to take the Linguistics of Course 12.



COURSES FOR THE BACHELOR'S DEGREE.

GERMAN.

COURSE.			FIRST SEMESTER.	
19 . . . . .			Beginning German—Whitney's Grammar and Reader . . . . .	Full Course.
21 . . . . .			German Lyrics and Ballads . . . . .	Full Course.
23 . . . . .			German Historical Dramas . . . . .	Full Course.
25 . . . . .			Modern Fiction . . . . .	Two-fifths Course.
SECOND SEMESTER.				
20 . . . . .			German Plays, Tales, and Conversation . . . . .	Full Course.
22 . . . . .			Goethe's Faust . . . . .	Full Course.
24 . . . . .			Literaturgeschichte . . . . .	Three-fifths Course.
26 . . . . .			Hermann und Dorothea; Nathan der Weise . . . . .	Two-fifths Course.

## COURSES FOR THE BACHELOR'S DEGREE.

## FRENCH.

COURSE.	FIRST SEMESTER.	
27 . . . . .	Beginning French—Pujol's Grammar . . . . .	Full Course.
29 . . . . .	French Prose; Historical French Grammar . . . . .	Full Course.
31 . . . . .	Paul Albert (Litterature Française) . . . . .	Three-fifths Course.
33 . . . . .	Alfred de Vigny's Cinq Mars . . . . .	Two-fifths Course.
	SECOND SEMESTER.	
28 . . . . .	La Fontaine's Fables; Modern Comedies . . . . .	Full Course.
30 . . . . .	Athalie; L'Avare; Le Cid . . . . .	Full Course.
32 . . . . .	French Historical Prose . . . . .	Two-fifths Course.
34 . . . . .	Prose of the Nineteenth Century . . . . .	Three-fifths Course.



## COURSES FOR THE BACHELOR'S DEGREE.

## MATHEMATICS.

(Continued on next page.)

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
35 . . . .	Higher Algebra and Theory of Equations	Four-fifths Course. .	{ Olney, Todhunter, Burnside and Panton, Matthies- sen.
36 . . . .	Modern Geometry . . . . .	One-fifth Course. . .	Chauvenet, Rouché and De Comberousse, Chasles.
39 . . . .	Plane Analytics and Calculus . . . . .	Full Course . . . . .	{ Taylor, Todhunter, Olney, Salmon, Briot and Bou- quet.
41 . . . .	Differential and Integral Calculus (Con- tinuation of Course 40) . . . . .	Three-fifths Course.	{ Rice and Johnson, Todhunter, Olney, Williamson, Houel, Schloemilch.
42 . . . .	Determinants . . . . .	Three-fifths Course.	{ Hannus, Burnside and Panton, Dostor, Baltzer, Scott, Salmon.
43 . . . .	Solid Analytics . . . . .	Three-fifths Course.	Aldis, Salmon, Frost.

# COURSES FOR THE BACHELOR'S DEGREE.

## MATHEMATICS.

(Continued.)

COURSE.	SECOND SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
37 . . .	Plane and Spherical Trigonometry. . . .	Four-fifths Course. .	Chauvenet; Olney; Oliver, Wait, and Jones.
38 . . .	Curve Tracing . . . . .	One-fifth Course. . .	Frost, Johnson.
40 . . .	Differential and Integral Calculus . . . . } (Continuation of Course 39) . . . . }	Full Course. . . . .	{ Rice and Johnson, Olney, Todhunter, Williamson, Houel, Schloemilch.
44 . . .	Quaternions . . . . .	Three-fifths Course.	Hardy, Tait, Hamilton.
47 . . .	*Elective Work . . . . .		

\*Special work on any subject chosen by the student. Course 47 is for advanced students only.

## COURSES FOR THE BACHELOR'S DEGREE.

## PHYSICAL SCIENCE.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
48 . . . .	General Physics—Lectures and Recitations . . . . .	Full Course . . . . .	Ganot, Daniell, Kohlrausch, Pickering.
118 . . . .	Meteorology . . . . .	Three-fifths Course.	Loomis.
	SECOND SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
119 . . . .	General Physics—Lectures and Recitations . . . . .	Full Course . . . . .	
46 . . . .	Analytical Mechanics . . . . .	Three-fifths Course.	Todhunter, Tait and Steele, Price.
52 . . . .	Astronomy . . . . .	Three-fifths Course.	White, Newcomb, Chambers.

## COURSES FOR THE BACHELOR'S DEGREE.

## CHEMISTRY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
54 . . .	Qualitative Analysis of <i>known</i> substances. Five hours a week in Laboratory during four months . . . . .	Four-fifths Course . . . . .	{ Eliot and Storer. Miller and Bloxam, Appleton.
56 . . .	Quantitative Analysis. Two hours a week in Laboratory . . . . .	Full Course . . . . .	Muspratt's Chemistry.
59 . . .	Organic Chemistry. Lectures . . . . .	Two-fifths Course . . . . .	{ Fresenius' Qualitative and Quantitative Analysis.
61 . . .	Assaying Ores—Wet way. Laboratory work . . . . .	Two-fifths Course. . . . .	Well's Outlines of Chemical Analysis.
62 . . .	Assaying Ores—Dry way. Laboratory work . . . . .	Three-fifths Course . . . . .	Liebig's Complete Works; Ricketts.
	SECOND SEMESTER.		REFERENCE BOOKS.
55 . . .	Qualitative Analysis of <i>unknown</i> substances. Five hours a week in Laboratory during six months . . . . .	One and one-fifth Course. . . . .	Storer's Dictionary of Chemical Solubilities.
57 . . .	Volumetric Analysis. Laboratory work	Two-fifths Course . . . . .	Schellen's Spectrum Analysis.
58 . . .	Blow-pipe Analysis. Laboratory work .	Three-fifths Course . . . . .	{ Plattner's Qualitative and Quantitative Analysis with the Blow-Pipe.
60 . . .	Ultimate Organic Analysis . . . . .	Full Course . . . . .	{ Crooke's Mitchell's Manual of Practical Assaying.
63 . . .	Original Research . . . . .	Full Course . . . . .	

COURSES FOR THE BACHELOR'S DEGREE.

ZOOLOGY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
64 . . . .	General Zoology, Text Book and Lectures . . . . .	Three-fifths Course . . .	Carpenter, Nicholson, Packard, Scudder, Wilson.
67 . . . .	Conchology, with special reference to the shells of Colorado . . . . .	Two-fifths Course . . .	Binney, Woodward.
	SECOND SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
65 . . . .	Laboratory Work. (Dissections.) . . . .	Two-fifths Course . . .	Huxley, Morse.
66 . . . .	Ornithology, with special reference to Colorado birds . . . . .	Two-fifths Course . . .	Cones, Baird.

## COURSES FOR THE BACHELOR'S DEGREE.

## GEOLOGY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
68 . . . .	General Geology; Text Book and Lectures	Two-fifths Course . . . .	Dana, Le Conte, Dawson, Wilson, Lyell.
	SECOND SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
69 . . . .	General Geology; Text Book and Lectures	Three-fifths . . . . .	Hayden's Reports.
70 . . . .	Paleontology—with special reference to the fossils of Colorado . . . . .	Two-fifths . . . . .	Wheeler's Reports.



## COURSES FOR THE BACHELOR'S DEGREE.

## BOTANY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
72 . . . .	Cryptogamic Botany . . . . .	Full Course . . . . .	Gray, Sachs.
73 . . . .	Structural and Physiological Botany . . .	Two-fifths Course . . . .	Berkeley, Bessey.
	SECOND SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
71 . . . .	Phaenogamic Botany . . . . .	Full Course . . . . .	McAlpine's Atlases.

## COURSES FOR THE BACHELOR'S DEGREE.

## HISTORY.

COURSE.	FIRST SEMESTER.	TEXT BOOKS.	
74 . . .	Ethnology of Europe—Lectures . . . . .	One-fifth Course. . .	
75 . . .	General History of Europe from the Reforma- tion to the Congress of Vienna . . . . .	Three-fifths Course..	} Taylor's History of Modern Europe; or Fisher's Outlines.
76 . . .	English History during the Tudor and Stuart Periods . . . . .	Three-fifths Course..	Green's History of the English People.
77 . . .	Constitutional History of U. S. in outline. . . . .	One-fifth Course. . .	Johnston's History of American Politics.
78 . . .	History of the Middle Ages . . . . .	Full Course . . . . .	} Hallam's Middle Ages and Selections from Gibbon.
79 . . .	French History from Francis I. to the end of the Revolutionary Period . . . . .	Full Course . . . . .	Kitchin's History of France.
80 . . .	Periods of German History . . . . .	Full Course . . . . .	Stacke's Geschichte Deutschlands.
81 . . .	International Law . . . . .	Two-fifths Course..	Woolsey's International Law.

COURSES FOR THE BACHELOR'S DEGREE.  
POLITICAL ECONOMY.\*

COURSE.	FIRST SEMESTER.		TEXT BOOKS.
82 . . . .	Elements of Political Economy: Lectures and Discussions . . . . .	Full Course . . . . .	
83 . . . .	Political Economy: Recitations and Discussions	Full Course . . . . .	Mill and Cairnes.
84 . . . .	Lectures on the History of Economic Science; Critical Reading of Select Economic Works.	Three-fifths Course.	
120 . . . .	Lectures on Emigration and Questions arising therefrom . . . . .	One-fifth Course. . .	{ The Lecturer's Pamphlet—"Thoughts on Emigration." }

\*Original work is required in all the Courses.

COURSES FOR THE BACHELOR'S DEGREE.  
MENTAL AND MORAL SCIENCE.

COURSE.	SECOND SEMESTER.	TEXT BOOKS.
85 . . . . .	Logic: Deductive and Inductive, in outline. . . . .	Two-fifths Course. . . . . Jevons.
86 . . . . .	Nature and Method of Inductive Logic. . . . .	Two-fifths Course. . . . . Mill's Logic, Books III. and IV.
87 . . . . .	Logic . . . . .	Two-fifths Course. . . . . Thompson's Outlines of the Laws of Thought
88 . . . . .	Mental Philosophy: Senses; Intellect; Will . . . . .	Three-fifths Course. . . . . Sully's Outlines of Psychology.
89 . . . . .	Mental Philosophy: Origin of Knowledge, etc. . . . . Lectures and Recitations . . . . .	Full Course . . . . . Locke's Essay.
91 . . . . .	Critical reading of Leading Philosophical Works, { with advanced students . . . . .	
92 . . . . .	Moral Philosophy: Lectures . . . . .	Three-fifths Course.
93 . . . . .	Critical reading of representative works: On (1) { Development Theory of Morals; (2) Intuition { Theory; and (3) Utilitarian Theory . . . . .	
94 . . . . .	{ History of Philosophy: Ancient . . . . .	Three-fifths Course.
95 . . . . .	{ History of Philosophy: Modern . . . . .	Three-fifths Course. . . . . Schwegler's History of Philosophy.

## COURSES FOR THE BACHELOR'S DEGREE.

## SURVEYING.

COURSE.	FIRST SEMESTER.	TEXT BOOKS AND REFERENCE BOOKS.
117 . . . . .	Field Work . . . . .	One-fifth Course . .
	SECOND SEMESTER.	
114 . . . . .	General Theory of Surveying . . . . .	One-fifth Course . . . Murray, Gillespie,
115 . . . . .	Use of Transit, Solar Compass and Level.	Two-fifths Course . .

## REQUIREMENTS FOR GRADUATION.

Five exercises a week during a semester, whether in recitations, laboratory work, or lectures, constitute a *full course of study*. Students must satisfactorily complete *twenty-four full courses* to obtain the recommendation of the Faculty for a degree. It is not essential that the exercises constituting a *full course* shall be in one and the same branch of study; but the student's choice must be approved.

Practice in writing and speaking is required throughout the student's course.

## THE DEGREE OF BACHELOR OF ARTS.

Of the twenty-four full courses which the student is required to complete to obtain the recommendation of the Faculty for the degree of Bachelor of Arts, ten are *prescribed*: one full year in Latin; one in Greek; one in mathematics; and a second year in any two of these subjects. From the other courses offered, the student must select and complete enough to make *twenty-four full courses*.

## THE DEGREE OF BACHELOR OF PHILOSOPHY.

Of the twenty-four full courses which the student is required to complete to obtain the recommendation of the Faculty for the degree of Bachelor of Philosophy, ten are *prescribed*: four courses in Latin; two in mathematics; and four in philosophy. From the remaining courses offered, the student must select and complete enough to make *twenty-four full courses*.

## THE DEGREE OF BACHELOR OF SCIENCE.

Of the twenty-four full courses which the student is required to complete to obtain the recommendation of



the Faculty for the degree of Bachelor of Science, sixteen are *prescribed*: four in mathematics; six in science (48, 52, 54, 56, 71 and 119); two in philosophy; two in German; and two in French (29 and 30). From the remaining courses offered, the student must select and complete enough to make *twenty-four full courses*.

### THE DEGREE OF BACHELOR OF LETTERS.

For the degree of Bachelor of Letters, thirteen courses are *prescribed*: one in mathematics; two in philosophy; two in English; four in French; and four in German. From the remaining courses offered, the student must select and complete enough to make *twenty-four full courses*.

### MASTER OF ARTS AND MASTER OF SCIENCE.

Upon application to the President or Secretary by any Bachelor of Arts or Bachelor of Science, for an advanced degree, a special committee of the Faculty is appointed, under whose direction the candidate lays out his work and prepares his thesis to secure the degree of Master of Arts or Master of Science. Such application must be made at least one year in advance, and must be accompanied by a statement of the branches of study to which the candidate desires to give special attention.

### PARTIAL WORK.

Certificates of the following form are given to students who comply with the necessary requirements:

*University of Colorado.*

THIS CERTIFIES, That \_\_\_\_\_ has completed the prescribed course of study in \_\_\_\_\_.

\_\_\_\_\_,  
President.

These certificates are given, on application, to all students who have satisfactorily completed certain courses, if the minimum required for a degree has been taken.

### RESIDENT GRADUATES.

Graduates of this University, or of any other university or college, desirous of continuing their studies, may attend public lectures and use the library, laboratory, apparatus and scientific collections, subject to such rules as the Faculty may establish. They may also receive private instruction from the professors in the respective departments.

### ADVANCED STANDING.

Students coming from institutions of like grade should bring certificates definitely stating the amount of work done in each subject. Real equivalents will be accepted. Graduation depends not upon the time spent, but upon work actually accomplished.

### GOVERNMENT.

The discipline of the institution is administered with firmness and impartiality. It aims to develop self-control, manliness, and a generous public spirit; to induce such a high moral sentiment as will be in itself a powerful governing force in the school.

NORMAL SCHOOL.



## NORMAL SCHOOL

---

The design of this school is to prepare teachers for the work of conducting the schools of the State.

Thorough instruction is given in the branches taught in the common schools, and the best methods of teaching these branches is exemplified. The work also includes a comprehensive study of the theory of teaching, history and philosophy of education, and school economy.

Pupils in the Preparatory School can pursue branches fitting them for teaching; and College students who choose may elect any of the courses in Pedagogy.

Among the advantages of having the State Normal School in connection with the State University are the following: (1) The pupils come in contact with and are aroused by the University spirit. (2) The pupils have opportunities for better instruction. (3) It permits a more extended course and hence tends to raise the scholarship of the teachers in the State.

### ADMISSION.

Applicants for admission to the Normal School must be at least sixteen years of age, and must declare that it is their intention to become teachers.

They must also pass a satisfactory examination in reading, writing, spelling, arithmetic, geography, United States history, and the elements of English grammar.

Special attention will be paid to the candidate's knowledge of the fundamental rules of arithmetic, and the ability to perform operations in them rapidly and correctly. A practical familiarity with the common abbreviations, marks of punctuation, and the rules for the use of capital letters is required.

Each student should bring a letter from his last teacher, or from some responsible person, giving an account of his application to study, efficiency in work, and probable adaptation to the business of teaching.

Examinations for admission are held at the same time as those for the Preparatory School.

### COURSE OF STUDY.

The course of study extends over four years. The first two years are identical with the first two years of the Preparatory School. The last two years are given to the study of English literature, history, mathematics, science, and pedagogy. During the last semester of the present year a lecture has been given each week on methods of instruction and discipline.

### DIPLOMA OF THE NORMAL SCHOOL.

All students who complete the prescribed work of the Preparatory School, except the foreign languages of the last two years, and who complete the prescribed courses of pedagogical work, will receive the diploma of the Normal School.

### STUDENTS RECOMMENDED FOR TEACHERS.

The State University, standing at the head of the public schools, is called to supply teachers for all grades, from the lowest to the highest. County Superintendents and School Boards are assured that the Faculty will recommend only such students for teachers as, in their opinion, have made a good record.



# PREPARATORY SCHOOL.



## PREPARATORY SCHOOL.

---

The object of this school is to prepare students for courses leading to the Bachelor's degree. The course of study covers four years.

### REQUIREMENTS FOR ADMISSION.

Applicants for admission to the Preparatory School must pass an examination in arithmetic, geography, outlines of United States history, and elements of English grammar.

### ADMISSION TO ADVANCED STANDING.

Those proposing to enter any course at an advanced standing will be examined in such studies as have been pursued previous to their admission.

### COURSES OF STUDY.

The work of the first year is the same for all students. At the beginning of the second year, students intending to take courses leading to the degree of Bachelor of Arts commence Greek; other students may take English and Science in the place of Greek. The difference between the courses in the third and fourth years will be seen by consulting the following tables. The figures at the right indicate the number of recitations a week.

## CLASSICAL COURSE.

[For students who intend to become candidates for the degree A. B.  
Received as an equivalent for the Scientific Course.]

## FIRST YEAR.

LATIN—Allen and Greenough's Grammar; Tetlow's Lessons . . . . .	5
MATHEMATICS—Olney's Complete Algebra . . . . .	5
ENGLISH—Hart's Rhetoric . . . . .	3
HISTORY—Swinton's Outlines . . . . .	2

## SECOND YEAR.

## FIRST AND SECOND TERMS.

LATIN—Allen and Greenough's Cæsar; Allen's Prose Composition . . . . .	4
MATHEMATICS—Todhunter's Algebra . . . . .	3
GREEK—Goodwin's Grammar; White's Lessons . . . . .	5
HISTORY—Gardiner's English History . . . . .	3

## THIRD TERM.

LATIN—Cæsar and Latin Prose Composition . . . . .	5
MATHEMATICS—Todhunter's Algebra . . . . .	2
GREEK—Goodwin's Grammar; White's Lessons . . . . .	5
CIVIL GOVERNMENT—Townsend's . . . . .	3

## THIRD YEAR.

LATIN—Greenough's Virgil . . . . .	5
MATHEMATICS—Chauvenet's Geometry . . . . .	5
GREEK—Goodwin's Greek Reader . . . . .	5

## FOURTH YEAR.

## FIRST AND SECOND TERMS.

LATIN—Cicero's Orations; Allen's Prose Composition . . . . .	4
GREEK—Prose Composition, Iliad; one term each . . . . .	4
ENGLISH—Kellogg's English Literature . . . . .	2
GERMAN—Whitney's German Grammar and Reader . . . . .	5

THIRD TERM.

LATIN—Lincoln’s Ovid ; Roman History . . . . .	3
MATHEMATICS—Reviews . . . . .	3
GREEK—Homer’s Iliad . . . . .	2
ENGLISH—Kellogg’s English Literature . . . . .	2
GERMAN—Plays ; Conversation . . . . .	5

SCIENTIFIC COURSE

[For students who intend to become candidates for the degrees Ph. B.  
and B. S.]

FIRST YEAR.

LATIN—Allen and Greenough’s Grammar ; Tetlow’s Lessons . . . . .	5
MATHEMATICS—Olney’s Complete Algebra . . . . .	5
ENGLISH—Hart’s Rhetoric . . . . .	3
HISTORY—Swinton’s Outlines of General History . .	2

SECOND YEAR.

FIRST AND SECOND TERMS.

LATIN—Allen and Greenough’s Cæsar ; Allen’s Prose Composition . . . . .	4
MATHEMATICS—Todhunter’s Algebra . . . . .	3
HISTORY—Gardiner’s English History . . . . .	3
ENGLISH—March’s Study of the English Language	2
SCIENCE—Physics . . . . .	3

THIRD TERM.

LATIN—Cæsar and Latin Prose Composition . . . . .	5
MATHEMATICS—Todhunter’s Algebra . . . . .	2
CIVIL GOVERNMENT—Townsend’s . . . . .	3
ENGLISH—March’s Study of the English Language .	2
SCIENCE—Physics . . . . .	3

## THIRD YEAR.

LATIN—Greenough's Virgil . . . . .	5
MATHEMATICS—Chauvenet's Geometry . . . . .	5
FRENCH—Pujol's Grammar; Fables; Comedies. . . . .	5

## FOURTH YEAR.

## FIRST AND SECOND TERMS.

LATIN—Cicero's Orations; Allen's Prose Composition . . . . .	4
ENGLISH—Kellogg's English Literature . . . . .	2
GERMAN—Whitney's Grammar and Reader . . . . .	5
SCIENCE . . . . .	4

## THIRD TERM.

LATIN—Lincoln's Ovid; Roman History . . . . .	3
MATHEMATICS—Reviews, three times a week; Mechanical Drawing, twice a week . . . . .	5
ENGLISH—Kellogg's English Literature . . . . .	2
GERMAN—Plays; Conversation . . . . .	5

Supplementary to both Courses some readings in English are recommended :

*First Year*—Hawthorne, Selected Tales; Shakspeare, Merchant of Venice; Bunyan, Pilgrim's Progress.

*Second Year*—Webster, Speeches; Addison, Selections from Spectator; Shakspeare, Julius Cæsar.

*Third Year*—Bacon, Essays; Shakspeare, Hamlet; Irving, Sketch Book.

*Fourth Year*—Milton, Paradise Lost; Spenser, Faerie Queene, two books; Chaucer, Prologue and Select Tales.



## CHOICE OF COURSE.

Students who are candidates for graduation will take one of the regular courses, and may take such additional work as they desire and, in the opinion of the Faculty, are capable of pursuing.

But all students of whatever class, after entering upon work in accordance with the prescribed regulations, will be subject to the following provisions:—

No student will be permitted to change or to vary his course until the close of the school year, except for one of the following reasons:

1. Physical or mental disability.
2. Ability to perform additional work.

All applications for changing or varying the course must be made in writing, and addressed to the President of the Faculty, and must allege one of the foregoing reasons. If the first reason is alleged, the student will be directed to discontinue such work, *both in kind and amount*, and for such time as the Faculty shall deem proper. If the second reason is alleged, the student's work will be increased if his standing in class justifies it. The Faculty reserves the right to increase or lessen any student's work at any time.

## CERTIFICATE OF THE PREPARATORY SCHOOL.

Certificates will be given to students who complete any one of the courses of study.

Candidates for degrees are admitted to the University on a certificate of graduation from the Preparatory School.

## REGULATIONS.

Students who enter the school must register at the office. A student who withdraws without obtaining the

written consent of his instructors is dropped from the roll, and can be readmitted only by vote of the Regents.

All students are required to assemble in the auditorium Monday mornings.

Students neglecting any recitation or absenting themselves without good excuse are suspended from the privileges of the school.

A record is kept of the rank and attendance of each student, and an abstract is sent to the parent or guardian once a month.

### RELIGIOUS SERVICES.

Religious exercises are held in the auditorium four times a week. The services consist of the Lord's Prayer and reading of the Scripture. The students have formed a Christian Association that meets once a week. There are Baptist, Catholic, Congregational, Episcopalian, Methodist, Presbyterian, and Unitarian churches in town, which students may attend.

No teacher or student is required to attend or to participate in any religious service.

CATALOGUE OF STUDENTS.

# DEPARTMENT

—OF—

## PHILOSOPHY AND THE ARTS.

NAME.	RESIDENCE.
BRAINARD, CLINTON TYLER,	<i>Boulder.</i>
CHASE, FREDERICK LINCOLN,	<i>Boulder.</i>
CULVER, GEORGE MCCLELLAND,	<i>Poncha Springs.</i>
DUNCAN, GUY DALE,	<i>Longmont.</i>
EARHART, MINNIE,	<i>Boulder.</i>
GLOVER, JOEL CLARKE,	<i>Coshocton, Ohio.</i>
GOODELL, ERNEST,	<i>Boulder.</i>
JOHNSON, ERNEST EDGAR,	<i>Coshocton, Ohio.</i>
JOHNSON, MAMIE BALL,	<i>Boulder.</i>
MASON, EDWARD COOK,	<i>Boulder.</i>
NOXON, VICTOR IRWIN,	<i>Idaho Springs.</i>

1886.]

*Catalogue of Students.*

55

PEASE, CLARENCE HARLOW,	<i>Boulder.</i>
PERSONS, SILAS EDWARD, A. B., Hamilton College, 1881.	<i>Boulder.</i>
PIERCE, CHARLES HERBERT,	<i>Boulder.</i>
ROWLAND, JUDSON,	<i>Boulder.</i>
SEWALL, CARRIE LUCINDA,	<i>Boulder.</i>
SEWALL, JENNIE,	<i>Boulder.</i>
SNELL, EDWARD STRONG,	<i>Rushford, Minnesota</i>
STERNBERG, LAMBERT,	<i>Boulder.</i>
TETERS, WILBERTINE NESSLERHODE,	<i>Boulder.</i>
THOMPSON, GUY VAN GORDER,	<i>Boulder.</i>
*TYLER, BURT,	<i>Boulder.</i>
TYLER, HELEN FLORENCE,	<i>Boulder.</i>
WASHBURNE, LOMIE LOUISE,	<i>Boulder.</i>
WIDNER, JOSEPHINE,	<i>Rincon, New Mexico.</i>
WISE, CATHERINE,	<i>Boulder.</i>
WOLCOTT, EDWARD CORNING,	<i>Boulder.</i>
WOOD, WILLIAM ROBERT,	<i>Boulder.</i>

\*Deceased.

# PREPARATORY SCHOOL.

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## SENIORS.

NAME.	RESIDENCE.
BELLMAN, WILLIAM SHERMAN,	<i>Boulder.</i>
CULVER, ANNIE ELIZABETH,	<i>Boulder.</i>
DORR, CATHERINE,	<i>Colorado Springs.</i>
ESTES, GEORGE FLEMING,	<i>Longmont.</i>
LYCAN, CORA EMMA,	<i>Boulder.</i>
SAMSON, SAMUEL MILTON,	<i>Boulder.</i>
STERNBERG, EMMA LORENA,	<i>Boulder.</i>
THOMPSON, ELISABETH BALLARD,	<i>Boulder.</i>
TYLER, FRED,	<i>Boulder.</i>



## JUNIORS.

NAME.	RESIDENCE.
ANDREWS, ERNEST,	<i>Boulder.</i>
BALLARD, ANNA MARGARITA,	<i>Boulder.</i>
COFFIN, GENEVA,	<i>Longmont.</i>
HALL, HORACE CHARLES,	<i>Boulder.</i>
INGRAM, EDITH EDNA,	<i>Boulder.</i>
MILLER, CHARLES FERDINAND,	<i>Boulder.</i>
PEABODY, LEILA ROSE,	<i>Boulder.</i>
PLATT, RINDA MAY,	<i>Valmont.</i>
SHELDON, CORA ESTHER,	<i>Boulder.</i>
STERNBERG, GUY,	<i>Boulder.</i>
WHEELOCK, WILLIAM ADDISON,	<i>Denver.</i>
WHITELY, HORTENSE,	<i>Boulder.</i>
WILSON, HARRY NOBLE,	<i>Longmont.</i>
WILSON, JESSIE SLOAN,	<i>Longmont.</i>

## THIRD CLASS.

NAME.	RESIDENCE.
ADAMS, WINIFRED,	<i>Rosita.</i>
BARNEY, EVALYN,	<i>Boulder.</i>
CARPENTER, CHARLES WHITFIELD,	<i>Boulder.</i>
CHENEY, IDA,	<i>Boulder.</i>
COPELAND, ROYAL TIMOTHY,	<i>Boulder.</i>
HACKER, IDA LOUISE,	<i>Boulder.</i>
HEIMBERGER, JACOB OPPENHEIM,	<i>Saguache.</i>
LEONARD, FRANK ALBERT,	<i>Socorro, New Mexico.</i>
MAXWELL, MARK NELSON,	<i>Boulder.</i>
MCCLEOD, SALLIE,	<i>Boulder.</i>
MOORE, GRACE MELISSA,	<i>Boulder.</i>

1886.]

*Catalogue of Students.*

59

PORTER, JENNIE VICTORIA,	<i>Boulder.</i>
ROWLAND, GEORGINA,	<i>Boulder.</i>
SANDERS, GEORGIA LEE,	<i>Sterling.</i> —
STANTON, LOUIS,	<i>Boulder.</i>
STERNBERG, MARY,	<i>Boulder.</i>
SWANSON, LILLIE,	<i>Rosita.</i>
TERRY, NORA ELLA,	<i>Longmont.</i>
TETERS, LULU ELLA,	<i>Boulder.</i>
WISE, LILLIAN RACHEL,	<i>Boulder.</i>

## FOURTH CLASS.

NAME.	RESIDENCE.
ALBERTSON, MARY,	<i>Boulder.</i>
ALLEN, ARTHUR,	<i>Boulder.</i>
BAILEY, ANNA BELL,	<i>Boulder.</i>
BARRY, MILDRED,	<i>Boulder.</i>
BEHRENS, MATILDA CAROLINE,	<i>Evans.</i>
BLAKE, JAMES EDWARD,	<i>Boulder.</i>
BURGER, CHARLES ROLAND,	<i>Boulder.</i>
CAVINESS, ARTHUR,	<i>Boulder.</i>
CHASE, GEORGE ARTHUR,	<i>Boulder.</i>
CRAIG, KITTIE LEE,	<i>Golden.</i>
DAILY, CHARLES CAUFFIELD,	<i>Salina, Kans<sup>s</sup>.</i>
DENISON, BERTIE GRACE,	<i>Valmont.</i>
DIETRICH, LILLIAN MAY,	<i>Boulder.</i>

1886.]

*Catalogue of Students.*

61

ESTES, EDWIN, *Longmont.*

EVERTS, ELIZABETH HAYWARD, *Boulder.*

FIRSTBROOK, EMMA, *Boulder.*

GALLUP, EDWARD PALMER, *Boulder Canon.*

GRILL, HENRY THEODORE, *Boulder.*

GRUND, LENA MAY, *Boulder.*

HANKINS, MATTIE, *Monroe, Jasper Co., Iowa.*

HARLAN, JOHN PAXON, *Glenwood Springs.*

HARVEY, LOUISE, *Boulder.*

HOLSTEIN, ROSE, *Boulder.*

HOLZMAN, SARAH, *Las Vegas, New Mexico.*

JOHNSON, MADGE MOUNTJOY, *Boulder.*

KOEHLER, EMMA, *Boulder.*

KOEHLER, IDA LOUISE, *Boulder.*

LEONARD, IRA EDWARD, *Socorro, New Mexico.*

MONTGOMERY, MARY, *St. Vrain.*

MOREY, SELDEN, *Boulder.*

PARKER, ELIJAH ROSS,	<i>Wentmore.</i>
PEABODY, HENRY MARTIN,	<i>Boulder.</i>
PORTER, LESTON LEON,	<i>Silver Cliff.</i>
SAWYER, FANNIE,	<i>Boulder.</i>
SEWALL, STEPHEN,	<i>Boulder.</i>
SHALTENBRAND, JOHN EDWARD,	<i>Boulder.</i>
SHEETS, CARRIE EDITH,	<i>Boulder.</i>
SMITH, PATTIE LEE,	<i>Sterling.</i>
STERNBERG, GEORGE,	<i>Boulder.</i>
WALKER, MARY,	<i>Boulder.</i>
WISE, CHARLES HOWARD,	<i>Boulder.</i>
WOY, LEOTA,	<i>Boulder.</i>

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FOURTH CLASS,	-	-	-	-	42—
					85
TOTAL,	-	-	-	-	132



## EIGHTH ANNIVERSARY,

WEDNESDAY, JUNE 3, 1885.

---

*Candidate for Degree of Master of Arts.*

ERNEST MONDELL PEASE,

Fellow at Johns Hopkins University.

---

*Candidates for Degree of Doctor in Medicine.*

HENRY CARTER EVANS,

HARRISON EDWARD STROUD.

---

*Class of '85, Preparatory School.*

GEORGE McCLELLAND CULVER,

GUY DALE DUNCAN,

LAMBERT STERNBERG,

LOMIE LOUISE WASHBURNE.

# NINTH ANNIVERSARY,

WEDNESDAY, JUNE 2, 1886.

---

*Candidates for the Degree of Bachelor of Arts.*

FREDERICK LINCOLN CHASE,

HELEN FLORENCE TYLER,

EDWARD CORNING WOLCOTT.

---

*Candidates for the Degree of Bachelor of Science.*

VICTOR IRWIN NOXON,

CLARENCE HARLOW PEASE.

---

*Candidate for the Degree of Bachelor of Letters.*

JUDSON ROWLAND.

---

*Candidates for the Degree of Doctor in Medicine.*

GUSTAVE BEAUREGARD BLAKE, New Orleans, La.

HOLLIS ILLSEY BRAGDON, Ellsworth, Me.

---

*Class of '86, Preparatory School.*

CATHERINE DORR,	-	-	LATIN SCIENTIFIC COURSE.
CORA EMMA LYCAN,	-	-	" " "
SAMUEL MILTON SAMSON,	-	"	" "
EMMA LORENA STERNBERG,	-	"	" "
ELISABETH BALLARD THOMPSON,	"	"	" "

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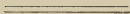
CALENDAR

OF THE

UNIVERSITY OF COLORADO,

BOULDER, COLORADO.

1885-6.



DENVER, COLO:  
THE TIMES PRINTING COMPANY.  
1885.

# CALENDAR.

1885.							1885.							1886.						
JUNE.							NOVEMBER.							APRIL.						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6	1	2	3	4	5	6	7					1	2	3
7	8	9	10	11	12	13	8	9	10	11	12	13	14	4	5	6	7	8	9	10
14	15	16	17	18	19	20	15	16	17	18	19	20	21	11	12	13	14	15	16	17
21	22	23	24	25	26	27	22	23	24	25	26	27	28	18	19	20	21	22	23	24
28	29	30					29	30						25	26	27	28	29	30	
JULY.							DECEMBER.							MAY.						
			1	2	3	4			1	2	3	4	5							1
5	6	7	8	9	10	11	6	7	8	9	10	11	12	2	3	4	5	6	7	8
12	13	14	15	16	17	18	13	14	15	16	17	18	19	9	10	11	12	13	14	15
19	20	21	22	23	24	25	20	21	22	23	24	25	26	16	17	18	19	20	21	22
26	27	28	29	30	31		27	28	29	30	31			23	24	25	26	27	28	29
														30	31					
AUGUST.							1886.							JUNE.						
							JANUARY.													
2	3	4	5	6	7	8						1	2	6	7	8	9	10	11	12
9	10	11	12	13	14	15	3	4	5	6	7	8	9	13	14	15	16	17	18	19
16	17	18	19	20	21	22	10	11	12	13	14	15	16	20	21	22	23	24	25	26
23	24	25	26	27	28	29	17	18	19	20	21	22	23	27	28	29	30			
30	31						24	25	26	27	28	29	30							
							31													
SEPTEMBER.							FEBRUARY.							JULY.						
		1	2	3	4	5		1	2	3	4	5	6					1	2	3
6	7	8	9	10	11	12	7	8	9	10	11	12	13	4	5	6	7	8	9	10
13	14	15	16	17	18	19	14	15	16	17	18	19	20	11	12	13	14	15	16	17
20	21	22	23	24	25	26	21	22	23	24	25	26	27	18	19	20	21	22	23	24
27	28	29	30				28							25	26	27	28	29	30	31
OCTOBER.							MARCH.							AUGUST.						
				1	2	3		1	2	3	4	5	6	1	2	3	4	5	6	7
4	5	6	7	8	9	10	7	8	9	10	11	12	13	8	9	10	11	12	13	14
11	12	13	14	15	16	17	14	15	16	17	18	19	20	15	16	17	18	19	20	21
18	19	20	21	22	23	24	21	22	23	24	25	26	27	22	23	24	25	26	27	28
25	26	27	28	29	30	31	28	29	30	31				29	30	31				



## ANNOUNCEMENTS.

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COMMENCEMENT . . . . .	June 3, 1885.
SECOND SEMESTER CLOSES . . . . .	June 12, 1885.
EXAMINATIONS FOR ADMISSION . .	June 8; Sept. 8, 1885.
FIRST SEMESTER WILL BEGIN . . . . .	Sept. 9, 1885.
WINTER RECESS . . . . .	Dec. 19, '85 to Jan. 3, '86.
EXERCISES RESUMED . . . . .	Jan. 4, 1886.
FIRST SEMESTER WILL CLOSE . . . . .	Jan. 29, 1886.
SECOND SEMESTER WILL BEGIN . . . . .	Feb. 1, 1886.
SPRING RECESS . . . . .	March 27 to Apr. 4, 1886.
SECOND SEMESTER WILL CLOSE . . . . .	June 11, 1886.
COMMENCEMENT . . . . .	June 2, 1886.
EXAMINATIONS FOR ADMISSION . . . . .	June 7, 1886.

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## PREPARATORY AND NORMAL SCHOOLS.

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THIRD TERM CLOSES . . . . .	June 12, 1885.
FIRST TERM WILL BEGIN . . . . .	Sept. 9, 1885.
FIRST TERM WILL CLOSE . . . . .	Dec. 18, 1885.
SECOND TERM WILL BEGIN . . . . .	Jan. 4, 1886.
SECOND TERM WILL CLOSE . . . . .	March 26, 1886.
THIRD TERM WILL BEGIN . . . . .	April 5, 1886.
THIRD TERM WILL CLOSE . . . . .	June 11, 1886.
EXAMINATIONS FOR ADMISSION . .	June 8; Sept. 8, 1885.

## BOARD OF REGENTS.

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MAX HERMAN,	<i>Leadville,</i>	Term expires, 1886.
JOSEPH C. SHATTUCK,	<i>Denver,</i>	Term expires, 1886.
JAMES RICE,	<i>Pueblo,</i>	Term expires, 1888.
LEONIDAS S. CORNELL,	<i>Denver,</i>	Term expires, 1888.
ROGER W. WOODBURY,	<i>Denver,</i>	Term expires, 1890.
CLINTON M. TYLER,	<i>Boulder,</i>	Term expires, 1890.

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## OFFICERS OF THE BOARD.

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JOSEPH A. SEWALL,	-	President.
JOSEPH C. SHATTUCK,	- -	Secretary.
CHARLES L. SPENCER,	-	Treasurer.

## FACULTY AND INSTRUCTORS.

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JOSEPH A. SEWALL, M. D., LL. D., PRESIDENT,

*Professor of Chemistry and Metallurgy.*

I. C. DENNETT, A. M.,

*Professor of Latin.*

PAUL H. HANUS, B. S.,

*Professor of Mathematics.*

MARY RIPPON,

*Professor of German and French.*

W. F. C. HASSON,

(Asst. Engineer U. S. Navy.)

*Professor of Mechanics and Applied Mathematics.*

JAMES W. BELL, Ph. D. (Leipzig),

*Professor of Political Economy and History.*

WILLIAM R. WHITEHEAD, M. D.,

*Professor of Anatomy and Surgery.*

J. RAYMOND BRACKETT, Ph. D. (Yale),

*Professor of English Literature and Greek.*

CHARLES AMBROOK, M. D.,

*Professor of Theory and Practice of Medicine.*

JAMES H. KIMBALL, M. D.,

*Professor of Physiology, Materia Medica, and Therapeutics.*

THOMAS H. EVERTS, M. D.,

*Professor of Obstetrics and Diseases of Women.*

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*Professor of Geology and Physics.*

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H. W. McLAUTHLIN, M. D.,

*Lecturer on Pathology and Histology.*

GEORGE CLEARY, M. D.,

*Lecturer on Ophthalmology and Otology.*

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*Instructor in Pedagogy.*

W. H. MERSHON,

*Licensed Instructor in Music.*

EDWARD C. WOLCOTT,

*Assistant Librarian.*

## GENERAL STATEMENT.

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The Constitution of the State of Colorado provides for the election of a Board of Regents of the University and defines its duties. The organic act, establishing the University and providing for its maintenance, was passed by the General Assembly of Colorado, March 15, 1877. Its object, as defined by that act, is "*to provide the best and most efficient means of imparting to young men and women, on equal terms, a liberal education and thorough knowledge of the different branches of literature, the arts and sciences, with their varied applications.*"

### HISTORY.

The University of Colorado was incorporated by an act of the Territorial Legislature of 1860, and the location fixed at Boulder. In 1871 three public-spirited citizens donated to the University fifty-two acres of land adjoining the city, valued at \$5,000. In 1874 the Territorial Legislature appropriated \$15,000, and the citizens of Boulder contributed a like sum in cash. In 1875 Congress set apart and reserved seventy-two sections of the public lands for the support of the State University. In 1876 the Constitution of Colorado provided that upon its adoption the University at Boulder should become an institution of the State, thus entitling it to the lands appropriated by Congress, and further made provisions for the management and control of the University. The first General Assembly of the State made provision for its permanent support by a levy of a tax of one-fifth of a mill upon the property

of the State; also for a fund to be secured by the sale of the lands donated by the United States.

The Institution was opened September, 1877, with two teachers and forty-four pupils.

In 1878 the General Assembly appropriated \$7,000 for apparatus, furniture, etc. In 1883 the General Assembly provided a special fund by a tax levy of one-fifth of a mill for the years 1883 and 1884, yielding about \$40,000. This fund has been expended for books, apparatus, furniture, additional buildings, and for the improvement of the grounds. The State has provided liberally for the maintenance of the University, and affords her sons and daughters facilities for acquiring a thorough education.

### LOCATION.

The University has a beautiful situation upon the high grounds on the south side of Boulder creek, and overlooks the city of Boulder. The scenery is not surpassed, if equaled, in the whole Rocky Mountain region. To the west are seen the boldest and highest foot-hills of the range, and far away the ever snow-capped summit of Arapahoe Peak. On the south rise the beautiful *mesas* or table lands; while to the north and east as far as the eye can reach extend fertile plains, dotted with lakes, and in June beautifully green with crops of cereals. The tourist may find in Boulder, South Boulder, and Bear Canons, and on the road to Sunshine and Gold Hill, scenery as grand, varied and beautiful as any in the State, or even in Switzerland. The climate is all that could be desired, neither excessively warm in summer nor cold in winter, and seems particularly favorable to the exercise of the intellectual faculties. The close proximity of some of the richest mines of the State, and the extensive reduction works where the crude ore is treated, afford students of chem-



istry and metallurgy rare opportunities for obtaining a practical knowledge of these sciences.

### BUILDINGS

The corner-stone of the main structure was laid September 20, 1875; the building is about sixty feet by one hundred and has been completed at a cost of forty-five thousand dollars. The basement contains the armory, music room, janitor's quarters, and a society room; on the first floor are three recitation rooms, the offices, and a fine auditorium; the library is on the second floor and the chemical laboratory on the third.

During the last year four new buildings have been erected—the President's house, two cottages, and the hospital. All the buildings are of brick; four are supplied with bath-rooms and three with hot water. The students' cottages offer neat and healthful accommodations at very low rates.

### APPARATUS AND CABINET.

The Cabinet contains a valuable collection of minerals and specimens to illustrate the geology, natural history and botany of the Northwest. The Herbarium contains over seven hundred specimens from Colorado, and has been arranged with great care in accordance with Gray's Manual of Botany. A collection of corals and shells, and a collection of fossils and rocks illustrating the geology of Colorado, have recently been added.

J. Alden Smith, State Geologist, donated his cabinet of minerals, one of the best arranged in the United States, the cash value of which is at least \$5,000.

### CHEMICAL LABORATORY.

The appliances for the theoretical and practical study of Chemistry have been greatly improved and

extended from year to year. One half of an entire story of the building has been devoted to the Chemical Laboratory, weighing room, and chemical store room. The Laboratory is *complete*. Four thousand dollars have been expended in making this Laboratory equal to the best in the country. For laboratory practice each student has the exclusive use of a table supplied with a complete set of re-agents and the necessary apparatus for experimental work. The weighing room adjoining the Laboratory is supplied with a Troemner's assay balance, Troemner's ore scale, and two Becker & Son's analytical balances. Adjoining the Laboratory is the chemical store room. The stock of chemicals from the celebrated house of H. Trommsdorf, in Erfurt, is entirely adequate to the most complete and extended course of study in the department of Chemistry.

Aside from the advantages offered by the Laboratory for the study of metallurgy, the gold and silver mines of Boulder County and the reduction works of Boulder and vicinity offer rare facilities for obtaining a knowledge of the treatment of ores.

### LIBRARY AND READING ROOM.

The Library is named in honor of C. G. Buckingham, of Boulder. From the income of the Buckingham fund and the liberality of friends, large additions are annually made. The regents have appropriated a sum equal to the matriculation fees for the support of the Reading Room, and two thousand five hundred dollars for the purchase of books the present year. All the students are allowed access to the books each day for the purpose of consultation and reading. The librarian, or an assistant, is in attendance during library hours to render such aid in the selection of books as may be desired. Students have free access to the books, but

are not allowed to take them from the room without receipting for the same.

A well-furnished Reading Room, containing the leading periodicals, magazines and reviews, is open to all upon the payment of one dollar per annum. The following is a partial list of the periodicals regularly received :

North American Review,	American Journal of
Contemporary Review,	Philology,
Fortnightly Review,	Latine,
Edinburgh Review,	Journal of Education,
Quarterly Review,	Fliegende Blaetter,
British Quarterly Review,	Deutsche Rundschau,
Westminster Review,	Nature,
Nineteenth Century,	Anglia,
Eclectic Magazine,	Englische Studien,
American Naturalist,	Science,
American Chemical Journal,	Electrical Review,
Popular Science Monthly,	American Journal of Mathe-
Atlantic Monthly,	matics,
Harper's Monthly,	Nouvelles Annales de Mathe-
Century,	matiques,
Mind,	Messenger of Mathematics,
Journal of Speculative	Annals of Mathematics,
Philosophy,	Mathematical Magazine,
Revue des Deux Mondes,	Mathematical Visitor,
Journal des Economistes,	Journal fuer die Reine und
Nation,	Angewandte Mathematik,
Education,	Colorado Daily and Weekly
	Papers.

#### PUBLIC LECTURES.

The following course of public lectures has been delivered in the auditorium :

Jan. 13th, "One Side,"	PRESIDENT SEWALL.
Jan. 27th, "Under the Surface,"	PROF. HANUS.
Feb. 10th, "German Socialism,"	DR. BELL.
Feb. 24th, "The Nebular Hypothesis,"	ASST. ENG. HASSON, U. S. N.
March 10th, "Literature as Fine Art,"	DR. BRACKETT.

### LITERARY SOCIETY.

The Philomathean Society is open to students of all departments and has become a valuable means of discipline and culture.

### PAPER.

The *Portfolio* is a wide-awake college paper published by the students.

### MUSIC.

Arrangements have been made for giving all students an opportunity to acquire a musical education. Special attention will be given to preparing students of the Normal School for teaching this branch in the schools of the State.

### FEES AND EXPENSES.

The fees and expenses are as follows :

A reading-room fee of one dollar per annum ; a matriculation fee of five dollars for residents of the State, and ten dollars for non-residents ; and an annual fee of fifteen dollars for non-residents.

These fees are payable in advance.

Students who pursue Laboratory courses of study are required to pay for the materials and apparatus actually consumed by them. The Laboratory expenses of students will vary with their prudence and economy.

Students obtain board and lodging in private families at four to six dollars a week. Room rent varies from one to two dollars a week for each student.

Since January 5, 1885, students living in the cottages erected on the campus, have been subject to the following *fixed rates*:

Table board, fuel, lamp oil, unfurnished	
room, per week,           -   -   -   -	\$4 00
For any part of a week, per meal, -   -	20
For dinners only,       -   -   -   -	33
For unfurnished room, fuel, and lamp oil,	
per month,               -   -   -   -	3 50

Board and room money must be paid to the Secretary in advance for each month.

The cost of washing at the cottage laundry averages forty-eight cents a dozen; in town, seventy-five cents.

There is no charge for the use of bath-rooms.

Two hundred dollars a year will pay all University bills and necessary expenses for board, fuel, lights, washing, books, and stationery.

Rooms will be assigned the first day of the fall term. Application may be made to the Secretary of the Faculty. Storage will be provided for furniture during the summer vacation.





## DEPARTMENTS.

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The departments of instruction in the UNIVERSITY OF COLORADO are comprehended under five divisions, as follows:—

The Department of PHILOSOPHY AND THE ARTS;

\*The Department of MEDICINE;

The NORMAL SCHOOL;

The CONSERVATORY OF MUSIC;

The PREPARATORY SCHOOL.

The department of PHILOSOPHY AND THE ARTS includes courses leading to the degrees of Bachelor of Arts, Bachelor of Philosophy, Bachelor of Science, and Bachelor of Letters.

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\*Issues a separate circular. Address JAMES H. KIMBALL, M. D., Steele Block, Denver, Colo.



DEPARTMENT

—OF—

PHILOSOPHY AND THE ARTS.

# FACULTY.

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JOSEPH A. SEWALL, M. D., LL. D., PRESIDENT.

I. C. DENNETT, A. M.

PAUL H. HANUS, B. S.

MARY RIPPON.

W. F. C. HASSON,  
(Asst. Engineer, U. S. Navy.)

JAMES W. BELL, Ph. D.

J. RAYMOND BRACKETT, Ph. D.

## REQUIREMENTS FOR ADMISSION.

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Students are admitted to the University on examination, and on diploma from accredited High Schools.

There are four examinations. Students are advised to prepare for I. rather than for II.; for II. rather than for III.; and for III. rather than for IV. IV. has been added for those who come from schools where foreign languages are not taught.

Students who pass a satisfactory examination on seventy per cent. of the subjects required may enter conditioned on the remainder. Conditioned students will make up deficiencies by recitation in the Preparatory School of the University.

### I. CANDIDATES FOR THE DEGREE OF BACHELOR OF ARTS.

In 1885-6 candidates for Courses leading to the degree of Bachelor of Arts will be examined in the following subjects:

1. LATIN.—Elements of Grammar; Jones's First Latin Lessons, or an equivalent; the translation at sight of easy Latin prose; the translation into Latin of simple English sentences suitable to those who have taken Jones's Composition; Cæsar, four books; Cicero, six orations; Virgil, the whole of the Aeneid. For the last six books of the Aeneid all the Eclogues and Georgics, or the Georgics and 2,500 lines of Ovid may be substituted.

2. GREEK.—White's First Lessons; Hadley's or Goodwin's Greek Grammar; Xenophon's Anabasis, three books; Iliad, two books, omitting the catalogue of ships; translation into Greek of simple sentences suitable to students who have taken Jones's Greek Proses.

3. HISTORY AND GEOGRAPHY.—Outlines of General History; Roman History to the death of Commodus; the Geography connected with the study of Greek and Roman History, and the Greek and Latin authors read.

4 MATHEMATICS.—*Arithmetic*.—Fundamental Rules, Fractions, Denominate Numbers, Percentage, Proportion.

*Algebra*.—Fundamental Rules, Fractions, Simple Equations, Elimination, Involution, Evolution, Calculus of Radicals, Quadratic Equations, Ratio, Proportion, Progressions. (Olney's Complete School Algebra.)

*Geometry*.—Plane and Solid Geometry. (Chauvenet.)

5. ENGLISH.—Hart's Rhetoric, complete; Kellogg's English Literature, complete.

Students passing an examination on all the above will be admitted to any Courses.

## II. CANDIDATES FOR THE DEGREE OF BACHELOR OF PHILOSOPHY.

Candidates for Courses leading to the degree of Bachelor of Philosophy will be examined on 1, 3, 4, 5 under I., and on English Analysis, Parsing, and History of England. In place of Greek, translation of French at sight; the elements of Physiology and of Physics; one year's German.

Students passing an examination on the above are also qualified to enter courses leading to the degrees B. S. and B. L.

## III. CANDIDATES FOR THE DEGREE OF BACHELOR OF SCIENCE.

Candidates for Courses leading to the degree of Bachelor of Science will be examined on the following subjects:

1. ENGLISH LANGUAGE, MATHEMATICS, HISTORY, PHYSICS, AND PHYSIOLOGY.—The same as under II., excepting Roman History.

2. GERMAN.—Principles of German Grammar (Whitney's or Otto's preferred); translation from English into German, and sight translations from ordinary German into English.

3. GEOGRAPHY.—Houston's Physical Geography.

4. LATIN.—As under I. Or four books of Cæsar, one year's French, Morse's First Book of Zoology, and Dana's Geological Story. Or four books of Cæsar, six books of Virgil, Zoology, and Geology.

5. BOTANY.—First twenty-seven chapters of Gray's Lessons.

6. GEOMETRICAL DRAWING.—Warren's Drafting Instruments.

7. CHEMISTRY.—The Elements of Inorganic Chemistry. (Eliot and Storer, or Roscoe.)

#### IV. CANDIDATES FOR THE DEGREE OF BACHELOR OF LETTERS.

Candidates for Courses leading to the degree of Bachelor of Letters will be received after passing a satisfactory examination in three of the following requirements:

A. ENGLISH.—1. Parsing. 2. Analysis. 3. Hart's Rhetoric, complete. 4. Kellogg's English Literature.

B. MATHEMATICS.—*Arithmetic*.—Fundamental Rules, Fractions, Denominate Numbers, Percentage, Proportion.

*Algebra*.—Fundamental Rules, Fractions, Simple Equations, Elimination, Involution, Evolution, Calculus of Radicals, Quadratic Equations, Ratio, Proportion, Progressions. (Olney's Complete School Algebra.)

*Geometry*.—Plane and Solid Geometry. (Chauvenet.)

C. HISTORY, GEOGRAPHY, &C.—Outlines of General History; History of England; Civil Government; Houston's Physical Geography.

D. SCIENCE.—1. *Physiology*.—Hooker, Youman or Dalton.

2. *Physics*.—Elements of Natural Philosophy. (Gage.)

3. *Botany*.—First twenty-seven chapters of Gray's Lessons.

4. *Chemistry*.—The Elements of Inorganic Chemistry. (Eliot and Storer, or Roscoe.)

5. *Geometrical Drawing*.—Warren's Drafting Instruments.

Candidates must pass *A* and *B*, and either *C* or *D*. After 1886 students must be prepared on all the subjects enumerated.

Students who pass this examination will be received in all courses that can be pursued without a knowledge of Latin, Greek, French, and German.

Candidates will be credited, for advanced standing, with any work in addition to the above on which they pass a satisfactory examination.

#### ACCREDITED HIGH SCHOOLS.

Students will be received on diploma from such schools as adopt a course of study of sufficiently high grade to prepare for the University, provided the Faculty is satisfied of the thoroughness of the instruction. To cultivate greater intimacy between the schools and the University, the Faculty offered the following course of twelve lectures to be given for the benefit of High School libraries:

DR. J. A. SEWALL, President—"One Side;" "Evolution."

I. C. DENNETT, A. M.—"Idols and Ideals;" "Individual Development."

J. R. BRACKETT, Ph. D.—"Literature as Fine Art;" "Public Education."

JAMES W. BELL, Ph. D.—"German Socialism;" "Social Problems."

PAUL H. HANUS, B. S.—"Under the Surface;" "Growth."

W. F. C. HASSON, U. S. N.—"Japan and the Japanese;" "The Nebular Hypothesis."



The greatest number of lectures given in one town was five; the least number, two.

Principals or School Boards wishing to avail themselves of this Course for the winter of 1885-6 may correspond with the Secretary of the Faculty.

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## COURSES OF STUDY.

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The various branches taught are offered to the student in *courses of study*. A *full course of study*, as here used, means five exercises a week throughout a semester. The student is required to complete twenty-four full courses in order to obtain the recommendation of the Faculty for a degree. Some are prescribed, but sufficient option is given for the student to direct his training in accordance with his inclinations and adaptability.

Students who are candidates for a degree take the prescribed work and select courses enough to make up the full amount of work required. Special students, that is, those not candidates for a degree, select such work as they desire from the courses pursued at the time.

No student will be permitted to change his course or drop any study, except by vote of the Faculty, and then only at the beginning of a semester.

All required courses will be given, but instructors may decline to give optional courses to less than five applicants. It is expected that each student will have an opportunity to pursue any course before taking his degree.

Courses in Pedagogy and additional courses in Natural Science will probably be offered at the beginning of the next semester.

## COURSES FOR THE BACHELOR'S DEGREE.

## LATIN.

COURSE.	FIRST SEMESTER.	
1 . . . . .	{ Livy, Prose Composition; four-fifths . . . . . { Roman History; one-fifth . . . . .	Full Course.
2 . . . . .	{ Horace; four-fifths . . . . . { Private Reading (Epodes); one-fifth . . . . .	Full Course.
	SECOND SEMESTER.	
3 . . . . .	{ Cicero (De Immortalitate); two-fifths . . . . . { Tacitus (Germania); two-fifths . . . . . { Private reading; one-fifth . . . . .	Full Course.
4 . . . . .	{ Juvenal; three-fifths . . . . . { Private reading, Latin Prose; two-fifths . . . . . { Andria of Terence . . . . .	Full Course.
5 . . . . .	{ Captives of Plautus . . . . . { Selections from Lucretius . . . . .	Full Course.

## COURSES FOR THE BACHELOR'S DEGREE.

## GREEK

COURSE.		
6 . . . . .	{ FIRST SEMESTER . . . The Iliad; History of Greece . . . . .	Full Course.
	{ SECOND SEMESTER . . . The Odyssey; Homeric Criticism . . . . .	Full Course.
7 . . . . .	{ FIRST SEMESTER . . . Sophocles; Greek Literature . . . . .	Full Course.
	{ SECOND SEMESTER . . . Aeschylus; Euripides; Greek Art . . . . .	Full Course.
8 . . . . .	{ FIRST SEMESTER . . . Lyric Poetry . . . . .	Two-fifths.
	{ SECOND SEMESTER . . . Aristophanes; Greek Comedy . . . . .	Three-fifths.
9 . . . . .	{ FIRST SEMESTER . . . Greek Prose Composition . . . . .	Three-fifths.
	{ SECOND SEMESTER . . . Demosthenes (De Corona); Greek Oratory . . . . .	Two-fifths.
10 . . . . .	{ FIRST SEMESTER . . . Memorabilia of Socrates . . . . .	Three-fifths.
	{ SECOND SEMESTER . . . Plato's Republic; Greek Philosophy . . . . .	Three-fifths.
11 . . . . .	{ FIRST SEMESTER . . . Herodotus; History of Greece . . . . .	Two-fifths.
	{ SECOND SEMESTER . . . Thucydides; History of Greece . . . . .	Two-fifths.

All these Courses may be completed in four years. Students in Greek are advised to take the Linguistics of Course 12.

COURSES FOR THE BACHELOR'S DEGREE.  
ENGLISH LITERATURE, PHILOLOGY, AND RHETORIC.

COURSE.	THROUGH THE YEAR.	
12. . . . .	{ Sweet's Anglo-Saxon Reader, Beowulf; three times a week. Whitney's "Life and Growth of Language"; twice a week.	Two Full Courses.
13. . . . .	{ Early English (Morris and Skeat). History of the English Language . . . . .	Two Full Courses.
14. . . . .	{ Study of English Authors; Criticism . . . . . Courses of Reading; Dictations . . . . .	Two Full Courses.
15. . . . .	{ First Semester: Epic Poetry . . . . . Second Semester: The Drama; the Lyric . . . . .	Full Course.
16. . . . .	Rhetoric. . . . .	Full Course.
17. . . . .	Essays, Speeches, and Debates. . . . .	Two three-fifths Courses.
18. . . . .	English Authors of America . . . . .	Two two-fifths Courses.
		Two Full Courses.

Students wishing to take a four years' course in English are advised to take courses 12, 13, 14, 15, in order; such students may receive instruction in Sanskrit, Gothic and Italian. Courses 14, 16 and 17 are a continuation of the work in the Preparatory School, and form a two years' course. Candidates for the Degree of B. L. must ask for a course of reading in Classical Mythology before electing courses 14 and 15.

## COURSES FOR THE BACHELOR'S DEGREE.

## GERMAN.

COURSE.	FIRST SEMESTER.	
19. . . . .	Beginning German—Whitney's Grammar and Reader. . . . .	Full Course.
21. . . . .	German Lyrics and Ballads . . . . .	Full Course.
23. . . . .	German Historical Dramas . . . . .	Three-fifths Course.
25. . . . .	Modern Fiction . . . . .	Two-fifths Course.
	SECOND SEMESTER.	
20. . . . .	German Plays, Tales, and Conversation . . . . .	Full Course.
22. . . . .	Goethe's Faust . . . . .	Full Course.
24. . . . .	Literaturgeschichte . . . . .	Three-fifths Course.
26. . . . .	Hermann und Dorothea; Nathan der Weise . . . . .	Two-fifths Course.

COURSES FOR THE BACHELOR'S DEGREE.

FRENCH.

COURSE.	FIRST SEMESTER.	
27 . . . . .	Beginning French—Pujol's Grammar . . . . .	Full Course.
29 . . . . .	French Prose; Historical French Grammar . . . . .	Full Course.
31 . . . . .	Paul Albert (Litterature Française) . . . . .	Three-fifths Course.
33 . . . . .	Alfred de Vigny's Cinq Mars . . . . .	Two-fifths Course.
	SECOND SEMESTER.	
28 . . . . .	La Fontaine's Fables; Modern Comedies . . . . .	Full Course.
30 . . . . .	Athalie; L'Avare; Le Cid . . . . .	Full Course.
32 . . . . .	French Historical Prose . . . . .	Two-fifths Course.
34 . . . . .	Prose of the Nineteenth Century . . . . .	Three-fifths Course.



COURSES FOR THE BACHELOR'S DEGREE.  
PHYSICAL SCIENCE.

COURSE.	FIRST SEMESTER.	TEXT BOOKS AND REFERENCE BOOKS.
48 . . .	General Physics—Lectures and Recitations . . . . .	Ganot, Olmstead, Kohirausch, Pickering. Clausius, Stewart, Tyndall.
49 . . .	Heat . . . . .	
	SECOND SEMESTER.	TEXT BOOKS AND REFERENCE BOOKS.
50 . . .	Electricity . . . . .	Jenkins, Faraday, Maxwell.
51 . . .	Thermodynamics . . . . .	Rankine.
52 . . .	Descriptive Astronomy . . . . .	White, Newcomb, Chambers.
53 . . .	Time—Latitude and Longitude . . . . .	American Ephemeris and Nautical Almanac.

[Courses in Physical Manipulation will be offered as soon as the University is properly supplied with working apparatus.  
\$2,500 has been appropriated for such apparatus.]

## COURSES FOR THE BACHELOR'S DEGREE.

## CHEMISTRY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
54. . . .	Qualitative Analysis of <i>known</i> substances. Five hours a week in Laboratory during four months. . . . .	Four-fifths Course.	{ Eliot and Storer. { Miller and Bloxam, Appleton.
56. . . .	Quantitative Analysis. Two hours a week in Laboratory . . . . .	Full Course . . . . .	Muspratt's Chemistry.
59. . . .	Organic Chemistry. Lectures . . . . .	Two-fifths Course . . . . .	{ Fresenius' Qualitative and Quantitative { Analysis.
61. . . .	Assaying Ores—Wet way. Laboratory work . . . . .	Two-fifths Course . . . . .	Well's Outlines of Chemical Analysis.
62. . . .	Assaying Ores—Dry way. Laboratory work . . . . .	Three-fifths Course . . . . .	Liebig's Complete Works; Ricketts.
	SECOND SEMESTER.		REFERENCE BOOKS.
55. . . .	Qualitative Analysis of <i>unknown</i> substances. Five hours a week in Laboratory during six months. . . . .	One and one-fifth Course.	Storer's Dictionary of Chemical Solubilities.
57. . . .	Volumetric Analysis. Laboratory work.	Two-fifths Course . . . . .	Schellen's Spectrum Analysis.
58. . . .	Blow-pipe Analysis. Laboratory work.	Three-fifths Course . . . . .	{ Plattner's Qualitative and Quantitative { Analysis with the Blow-Pipe.
60. . . .	Ultimate Organic Analysis . . . . .	Full Course . . . . .	{ Crooke's Mitchell's Manual of Practical { Assaying.
63. . . .	Original Research. . . . .	Full Course . . . . .	

COURSES FOR THE BACHELOR'S DEGREE.

ZOOLOGY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
64 . . .	General Zoology, Text Book and Lectures . . . . .	Three-fifths Course . . . .	Carpenter, Nicholson, Packard, Seudder, Wilson.
67 . . . .	Conchology, with special reference to the shells of Colorado . . . .	Two-fifths Course . . . . .	Binney, Woodward.
	SECOND SEMESTER		TEXT BOOKS, AND REFERENCE BOOKS.
65 . . . .	Laboratory Work. (Dissections.)	Two-fifths Course . . . . .	Huxley, Morse.
66 . . . .	Ornithology, with special reference to Colorado birds . . . . .	Two-fifths Course . . . . .	Cones, Baird.

COURSES FOR THE BACHELOR'S DEGREE.  
GEOLOGY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
68 . . . . .	General Geology: Text Book and Lectures	Two-fifths Course	Dana, Le Conte, Dawson, Wilson, Lyell.
	SECOND SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
69 . . . . .	General Geology: Text Book and Lectures	Three-fifths . . . . .	Hayden's Reports.
70 . . . . .	Paleontology—with special reference to the fossils of Colorado . . . . . }	Two-fifths . . . . .	Wheeler's Reports.

## COURSES FOR THE BACHELOR'S DEGREE.

## BOTANY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
72 . . . . .	Cryptogamic Botany . . . . .	Full Course . . . . .	Gray, Sachs.
73 . . . . .	Structural and Physiological Botany . .	Two-fifths Course.	Berkeley, Bessey.
	SECOND SEMESTER.		
71 . . . . .	Phænogamic Botany . . . . .	Full Course . . . . .	McAlpine's Atlases.

## COURSES FOR THE BACHELOR'S DEGREE.

## HISTORY.

COURSE	FIRST SEMESTER.		TEXT BOOKS.
74 . . . . .	Ethnology of Europe — Lectures . . . . .	One-fifth Course . .	
75 . . . . .	General History of Europe from the Reforma- tion to the Congress of Vienna . . . . . }	Three-fifths Course	Taylor's History of Modern Europe.
76 . . . . .	English History during the Tudor and Stuart periods . . . . . }	Three-fifths Course	Green's Short History of the English People.
77 . . . . .	Constitutional History of U. S. in outline . . .	One-fifth Course . .	Johnston's History of American Politics.
78 . . . . .	History of the Middle Ages . . . . .	Full Course . . . . .	{ Hallam's Middle Ages and Selections from Gibbon.
79 . . . . .	French History from Francis I. to the end of the Revolutionary Period . . . . . }	Full Course . . . . .	Duruy's Histoire de France.
80 . . . . .	Periods of German History . . . . .	Full Course . . . . .	Staacke's Geschichte Deutschlands.
81 . . . . .	International Law . . . . .	Two-fifths Course	Woolsey's International Law.



## COURSES FOR THE BACHELOR'S DEGREE.

## POLITICAL ECONOMY.\*

COURSE.	FIRST SEMESTER.	TEXT BOOKS.
82 . . . . .	Elements of Political Economy; Recitations, { Lectures, and Discussions . . . . . }	
83 . . . . .	Political Economy: As in Course 82. . . . .	Full Course . . . . . Perry's Political Economy. Full Course . . . . . Mill and Cairnes.
84 . . . . .	Lectures on the History of Economic Science; { Critical reading of George's <i>Progress and Poverty</i> . . . . . }	Three-fifths Course . . . . .

\* Original work is required in all the Courses.

COURSES FOR THE BACHELOR'S DEGREE. MENTAL AND MORAL SCIENCE.			
COURSE.	SECOND SEMESTER.		TEXT BOOKS.
85. . . . .	Logic: Deductive and Inductive, in outline. . .	Two-fifths Course. . .	Jevons.
86. . . . .	Nature and Method of Inductive Logic. . . . .	Two-fifths Course. . .	Mill's Logic, Bks III. and IV.
87. . . . .	Modern Logic. . . . .	Two-fifths Course. . .	Thompson's Outlines of the Laws of Thought.
88. . . . .	Mental Philosophy: Senses; Intellect; Will. . .	Three-fifths Course. . .	Sully's Outlines of Psychology.
89. . . . .	{ Mental Philosophy: Origin of Knowledge, etc. . .	Three-fifths Course. . .	Locke's Essay.
90. . . . .	{ Mental Philosophy. . . . .	Two-fifths Course. . .	Cousin's Lectures on Locke.
91. . . . .	Critical reading of Leading Philosophical Works, with advanced students. . . . .		
92. . . . .	Moral Philosophy: Lectures. . . . .	Three-fifths Course. . .	
93. . . . .	Critical reading of representative works: (1) Development Theory of Morals; (2) Intui- tional Theory; and (3) Utilitarian Theory. . .		
94. . . . .	{ History of Philosophy: Ancient. . . . .	Three-fifths Course. . .	Schwegler's Hist. of Philosophy.
95. . . . .	{ History of Philosophy: Modern. . . . .	Three-fifths Course. . .	

## COURSES FOR THE BACHELOR'S DEGREE.

## ENGINEERING.

These Courses were offered for the Academic Year of 1884-5. Their continuation is contingent upon the detail of an officer from the U. S. service.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
97 . . . . .	Graphical Statics . . . . .	Two-fifths Course . .	Eddy.
98 . . . . .	Applied Mechanics . . . . .	Three-fifths Course . .	Rankine.
101 . . . . .	Engineering Construction . . . . .	Four-fifths Course . . .	Rankine, Wood, Mahan.
103 . . . . .	Stereotomy: Lectures . . . . .	Two-fifths Course . . .	Willis.
99 . . . . .	Mechanism and Machine Drawing . . . . .	Two-fifths Course . . .	
SECOND SEMESTER.			
96 . . . . .	Elementary Mechanics . . . . .	Two-fifths Course . . .	Todhunter, Wood.
100 . . . . .	Machinery and Prime Movers . . . . .	Three-fifths Course . .	Rankine and Weisbach.
102 . . . . .	Hydraulics, Water Supply and Sewerage: Lectures . . . . .	One-fifth Course . . . .	
104 . . . . .	Strength of Materials . . . . .	Two-fifths Course . . .	Wood, Rankine.
105 . . . . .	Engineering Design: Lectures . . . . .	Three-fifths Course . .	

## COURSES FOR THE BACHELOR'S DEGREE.

## DRAWING.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
106 . . . .	Elementary Descriptive Geometry . . .	Three-fifths Course . .	Church's "Descriptive Geometry."
107 . . . .	{ Elements of Mechanical Drawing and Lettering . . . . .	Two-fifths Course . .	
110 . . . .	{ Intersections of Surfaces and Solids, and Shadings with Right Line and Brush . . . . .	Three-fifths Course . .	{ Warren's "Drafting Instruments and Projection Drawing," }
112 . . . .	{ Shades, Shadows and Perspective Iso- metric Projections . . . . .	Three-fifths Course . .	Thompson's Mahan's "Industrial Drawing."
	SECOND SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
108 . . . .	Applications of Descriptive Geometry .	Three-fifths Course . .	Enthoff's Topography.
109 . . . .	{ Mechanical Drawing and Stereographic Projections . . . . .	Two-fifths Course . .	
111 . . . .	Continuation of Course 110 . . . . .	Two-fifths Course . .	
113 . . . .	Topographical Drawing . . . . .	Three-fifths Course . .	

COURSES FOR THE BACHELOR'S DEGREE.  
SURVEYING.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
116 . . . .	Railroad Surveying and Earth Works Field Work . . . . .	Three-fifths Course . . .	
117 . . . .		One-fifth Course . . . .	
	SECOND SEMESTER.		
114 . . .			Murray, Gillespie.
115 . . . .	General Theory of Surveying . . . . . Use of Transit, Solar Compass and Level	One-fifth Course . . . . . Two-fifths Course . . . .	

## REQUIREMENTS FOR GRADUATION.

Five exercises a week during a semester, whether in recitations, laboratory work, or lectures, constitute a *full course of study*. Students must satisfactorily complete *twenty-four full courses* to obtain the recommendation of the Faculty for a degree. It is not essential that the exercises constituting a *full course* shall be in one and the same branch of study; but the student's choice must be approved.

Practice in writing and speaking is required throughout the student's course.

## THE DEGREE OF BACHELOR OF ARTS.

Of the twenty-four full courses which the student is required to complete to obtain the recommendation of the Faculty for the degree of Bachelor of Arts, ten are *prescribed*: one full year in Latin; one in Greek; one in mathematics; and a second year in any two of these subjects. From the other courses offered, the student must select and complete enough to make *twenty-four full courses*.

## THE DEGREE OF BACHELOR OF PHILOSOPHY.

Of the twenty-four full courses which the student is required to complete to obtain the recommendation of the Faculty for the degree of Bachelor of Philosophy, ten are *prescribed*: four courses in Latin; two in mathematics; and four in philosophy. From the remaining courses offered, the student must select and complete enough to make *twenty-four full courses*.

## THE DEGREE OF BACHELOR OF SCIENCE.

Of the twenty-four full courses which the student is required to complete to obtain the recommendation of the Faculty for the degree of Bachelor of Science, six



teen are *prescribed*: four in mathematics; six in science; two in philosophy; two in German; and two in French (29 and 30). From the remaining courses offered, the student must select and complete enough to make *twenty-four full courses*.

### THE DEGREE OF BACHELOR OF LETTERS.

For the degree of Bachelor of Letters, thirteen courses are *prescribed*: one in mathematics; two in philosophy; two in English; four in French; and four in German. From the remaining courses offered, the student must select and complete enough to make *twenty-four full courses*.

### MASTER OF ARTS AND MASTER OF SCIENCE.

Upon application to the President or Secretary by any Bachelor of Arts or Bachelor of Science, for an advanced degree, a special committee of the Faculty is appointed, under whose direction the candidate lays out his work and prepares his thesis to secure the degree of Master of Arts or Master of Science. Such application must be made at least one year in advance, and must be accompanied by a statement of the branches of study to which the candidate desires to give special attention.

### PARTIAL WORK.

Certificates of the following form are given to students who comply with the necessary requirements:

*University of Colorado.*

THIS CERTIFIES, That———has completed the prescribed course of study in———.

\_\_\_\_\_,  
President.

These certificates are given, on application, to all students who have satisfactorily completed certain courses, if the minimum required for a degree has been taken.

### RESIDENT GRADUATES.

Graduates of this University, or of any other university or college, desirous of continuing their studies, may attend public lectures and use the library, laboratory, apparatus and scientific collections, subject to such rules as the Faculty may establish. They may also receive private instruction from the professors in the respective departments.

### ADVANCED STANDING.

Students coming from institutions of like grade should bring certificates definitely stating the amount of work done in each subject. Real equivalents will be accepted. Graduation depends not upon the time spent, but upon work actually accomplished.

### GOVERNMENT.

The discipline of the institution is administered with firmness and impartiality. It aims to develop self-control, manliness, and a generous public spirit; to induce such a high moral sentiment as will be in itself a powerful governing force in the school.

### THE GIFFIN PRIZE.

A prize of ten dollars for excellence in public speaking has been offered by S. A. Giffin, Esq., of Boulder. It was awarded March 28, 1885, to Clinton Brainard, of the Freshman Class.

# NORMAL SCHOOL.

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PRINCIPAL.



## NORMAL SCHOOL.

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The design of this school is to prepare teachers for the work of conducting the schools of the State.

Thorough instruction is given in the branches taught in the common schools, and the best methods of teaching these branches is exemplified. The work also includes a comprehensive study of the theory of teaching, history and philosophy of education, and school economy.

Pupils in the Preparatory School can pursue branches fitting them for teaching; and College students who choose may elect any of the courses in Pedagogy.

Among the advantages of having the State Normal School in connection with the State University are the following: (1) The pupils come in contact with and are aroused by the University spirit. (2) The pupils have opportunities for better instruction. (3) It permits a more extended course and hence tends to raise the scholarship of the teachers in the State.

### ADMISSION.

Applicants for admission to the Normal School must be at least sixteen years of age, and must declare that it is their intention to become teachers.

They must also pass a satisfactory examination in reading, writing, spelling, arithmetic, geography, United States history, and the elements of English grammar.

Special attention will be paid to the candidate's knowledge of the fundamental rules of arithmetic, and the ability to perform operations in them rapidly and correctly. A practical familiarity with the common abbreviations, marks of punctuation, and the rules for the use of capital letters is required.

Each student should bring a letter from his last teacher, or from some responsible person, giving an account of his application to study, efficiency in work, and probable adaptation to the business of teaching.

Examinations for admission are held at the same time as those for the Preparatory School.

### COURSE OF STUDY.

The course of study extends over four years. The first two years are identical with the first two years of the Preparatory School. The last two years are given to the study of English literature, history, mathematics, science, and pedagogy.

### DIPLOMA OF THE NORMAL SCHOOL.

All students who complete the prescribed work of the Preparatory School, except the foreign languages of the last two years, and who complete the prescribed courses of pedagogical work, will receive the diploma of the Normal School.

### STUDENTS RECOMMENDED FOR TEACHERS.

The State University, standing at the head of the public schools, is called to supply teachers for all grades, from the lowest to the highest. County Superintendents and School Boards are assured that the Faculty will recommend only such students for teachers as, in their opinion, have made a good record.



CONSERVATORY OF MUSIC.



## CONSERVATORY OF MUSIC.

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The Conservatory of Music comprises the following courses:—

1. **PARLOR MUSIC.**—This course includes the study of instruments usually found in the parlor, and a graded course in vocal culture.

2. **CHURCH MUSIC.**—This course includes the study of all instruments found in the church, also solo and chorus vocal training. The elementary course is followed by any special course the student may select. Special attention is directed to such training in theory and practice as will enable the student to become a ready extempore performer upon the pipe or cabinet organ.

3. **ORATORIO CHORUS CLASS.**—This class is composed of all the students in the Preparatory School and College. All special students are requested to take part in this class, for which there is no extra charge. The selections given will be taken from the Classical and Romantic Schools.

4. **ORCHESTRAL MUSIC.**—Instruction is given in the use of all the instruments employed in a modern orchestra. As soon as prepared, students will take part in all orchestral rehearsals. The course also includes orchestration.

5. **BRASS AND REED INSTRUMENTS.**—This course includes the study of all instruments used in the modern band. A band composed of University students will be organized, to which all who are prepared will be admitted.

CLASSIFICATION OF STUDIES.					
Parlor Music.	Church Music.	Orchestral Music.	Brass Music.	Theory.	Professional.
Piano.		Violin.			
		Viola.			
Reed Organ.		Violoncello.	Cornet.	Thorough Bass.	Orchestra Leaders.
Guitar.	Pipe and Reed Organ.	Double Bass.	Alto.	Harmony. Composition.	Band Leaders.
Voice. Solo	Psalmody.	Flute. Clarionette.	Tenor.		Convention Leaders.
Singing.	Oratorio.	Piccolo.	Baritone.	Orchestration.	Teachers of Music.
Classics.		French Horn.	Trombone.	Arranging Band Music.	
		Trombone.	Tuba.		
		Tympani.	Side Drum.		
			Bass Drum.		

### REQUIREMENTS FOR GRADUATION.

Three years will ordinarily be required to complete the course in music. This time can be reduced only by unusual ability on the part of the pupil. The student will be required to pass a rigid examination in all parts of the course, and must show marked ability in sight-reading and composition. The composition in music must comprise not less than two hundred measures.

### CONSERVATORY EXPENSES.

1. PRIVATE LESSONS—INSTRUMENTAL OR VOCAL:—  
30 minutes, 20 lessons, . . . . . \$10.00  
60     "     "     "     . . . . . 20.00
2. CLASSES OF FOUR:—  
30 minutes, 20 lessons, . . . per student, \$ 5.00  
60     "     "     "     . . .     "     10.00
3. CHORUS, ORCHESTRAL, AND BAND DRILL.—Free.

Fees payable in advance. For detailed information apply to

W. H. MERSHON,  
Licensed Instructor in Music,  
University of Colorado.

# PREPARATORY SCHOOL.





## PREPARATORY SCHOOL.

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The object of this school is to prepare students for courses leading to the Bachelor's degree. The course of study covers four years, and is in all respects equal to that of the best high schools.

### REQUIREMENTS FOR ADMISSION.

Applicants for admission to the Preparatory School must pass an examination in arithmetic, geography, outlines of United States history, and elements of English grammar.

### ADMISSION TO ADVANCED STANDING.

Those proposing to enter any course at an advanced standing will be examined in such studies as have been pursued previous to their admission. Students who wish to enter a course after the beginning of the year may request the appointment of a tutor, who will prepare them for entrance to the class. Tutors' charges vary, but are rarely over fifty cents an hour.

### COURSES OF STUDY.

The work of the first year is the same for all students. At the beginning of the second year, students intending to take courses leading to the degree of Bachelor of Arts commence Greek; other students may take English and Science in the place of Greek. The difference between the courses in the third and fourth years will be seen by consulting the following tables. The figures at the right indicate the number of recitations a week.

## CLASSICAL COURSE.

[For students who intend to become candidates for the degree A. B. Received as an equivalent for either of the following courses.]

## FIRST YEAR.

LATIN—Allen and Greenough's Grammar; Jones's Lessons . . . . .	5
MATHEMATICS—Olney's Complete Algebra . . . . .	5
ENGLISH—Hart's Rhetoric . . . . .	3
HISTORY—Swinton's Outlines . . . . .	2

## SECOND YEAR.

## FIRST AND SECOND TERMS.

LATIN—Harkness' Caesar; Allen's Prose Composition	4
MATHEMATICS—Todhunter's Algebra . . . . .	3
GREEK—Goodwin's Grammar; White's Lessons . .	5
HISTORY—Green's Short History of English People	3

## THIRD TERM.

LATIN—Caesar and Latin Prose Composition . . .	5
MATHEMATICS—Todhunter's Algebra . . . . .	2
GREEK—Goodwin's Grammar; White's Lessons . .	5
CIVIL GOVERNMENT—Townsend's . . . . .	3

## THIRD YEAR.

LATIN—Greenough's Virgil . . . . .	5
MATHEMATICS—Chauvenet's Geometry . . . . .	5
GREEK—Goodwin's Greek Reader . . . . .	5

## FOURTH YEAR.

## FIRST AND SECOND TERMS.

LATIN—Harkness' Cicero; Allen's Prose Composition	4
GREEK—Greek Prose Composition, one term; Iliad	4
ENGLISH—Kellogg's English Literature . . . . .	2
GERMAN—Whitney's German Grammar and Reader	5

THIRD TERM.

LATIN—Lincoln’s Ovid; Roman History . . . . .	3
MATHEMATICS—Reviews . . . . .	3
GREEK—Homer’s Iliad . . . . .	2
ENGLISH—Kellogg’s English Literature . . . . .	2
GERMAN—Plays; Conversation . . . . .	5

LATIN SCIENTIFIC COURSE.

[For students who intend to become candidates for the degree Ph. B.  
Received as a equivalent for the Scientific course, but not for the Classical.]

FIRST YEAR.

LATIN—Allen and Greenough’s Grammar; Jones’s Lessons . . . . .	5
MATHEMATICS—Olney’s Complete Algebra . . . . .	5
ENGLISH—Hart’s Rhetoric . . . . .	3
HISTORY—Swinton’s Outlines of General History . . . . .	2

SECOND YEAR.

FIRST AND SECOND TERMS.

LATIN—Harkness’ Cæsar; Allen’s Prose Composition . . . . .	4
MATHEMATICS—Todhunter’s Algebra . . . . .	3
HISTORY—Green’s Short History of the English People . . . . .	3
ENGLISH—March’s Study of the English Language . . . . .	2
SCIENCE . . . . .	3

THIRD TERM.

LATIN—Harkness’ Cæsar; Allen’s Prose Composition . . . . .	5
MATHEMATICS—Todhunter’s Algebra . . . . .	2
CIVIL GOVERNMENT—Townsend’s . . . . .	3
ENGLISH—March’s Study of the English Language . . . . .	2
SCIENCE . . . . .	3

## THIRD YEAR.

LATIN—Greenough's Virgil . . . . .	5
MATHEMATICS—Chauvenet's Geometry . . . . .	5
FRENCH—Pujol's Grammar; Fables; Comedies . .	5

## FOURTH YEAR.

## FIRST AND SECOND TERMS.

LATIN—Harkness' Cicero; Allen's Prose Composition	4
ENGLISH—Kellogg's English Literature . . . . .	2
GERMAN—Whitney's Grammar and Reader . . . .	5
SCIENCE . . . . .	4

## THIRD TERM.

LATIN—Lincoln's Ovid; Roman History . . . . .	3
MATHEMATICS—Reviews, three times a week; Mechanical Drawing, twice a week . . . . .	5
ENGLISH—Kellogg's English Literature . . . . .	2
GERMAN—Plays; Conversation . . . . .	5

## SCIENTIFIC COURSE.\*

[For students who intend to become candidates for the degree B. S.]

## FIRST AND SECOND YEARS.

Identical with the first and second years of the Latin Scientific Course.

## THIRD YEAR.

LATIN OR SCIENCE—Virgil or Science . . . . .	5
MATHEMATICS—Chauvenet's Geometry . . . . .	5
FRENCH OR SCIENCE—Pujol's Grammar or Science .	5

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\*This course will probably be discontinued after June 1886.

## FOURTH YEAR.

## FIRST AND SECOND TERMS.

LATIN OR SCIENCE—Cicero and Latin Composition, or Science . . . . .	4
ENGLISH—Kellogg's English Literature . . . . .	2
SCIENCE . . . . .	4
GERMAN—Whitney's Grammar and Reader . . . . .	5

## THIRD TERM.

LATIN OR SCIENCE—Ovid and Roman History, or Science . . . . .	3
ENGLISH—Kellogg's English Literature . . . . .	2
MATHEMATICS—Reviews, three times a week; Mechan- ical Drawing, twice a week . . . . .	5
GERMAN—Plays; Conversation . . . . .	5

## CHOICE OF COURSE.

All students who enter the Preparatory School will be required to pursue the studies of the first two years, or to pass an examination in the same. Third and fourth year students who are candidates for graduation will take one of the regular courses, and may take such additional work as they desire and, in the opinion of the Faculty, are capable of pursuing. Students of the third and fourth years who are not candidates for graduation will select a course from the various branches taught.

But all students of whatever class, after entering upon work in accordance with the prescribed regulations, will be subject to the following provisions:—

No student will be permitted to change or to vary his course until the close of the school year, except for one of the following reasons :



1. Physical or mental disability.
2. Ability to perform additional work.

All applications for changing or varying the course must be made in writing and addressed to the President of the Faculty, and must allege one of the foregoing reasons. If the first reason is alleged, the student will be directed to discontinue such work, *both in kind and amount*, and for such time as the Faculty shall deem proper. If the second reason is alleged, the student's work will be increased if his standing in class justifies it. The Faculty reserves the right to increase or lessen any student's work at any time.

### CLASSIFICATION OF STUDENTS.

Students are catalogued as members of the lowest class in which they recite, or in which their work is incomplete.

### CERTIFICATE OF THE PREPARATORY SCHOOL.

Certificates will be given to students who complete any one of the courses of study.

Candidates for degrees are admitted to the University on a certificate of graduation from the Preparatory School.

### REGULATIONS.

Students who enter the school must register at the Secretary's office. A student who withdraws without obtaining the written consent of his instructors is dropped from the roll, and can be readmitted only by vote of the regents.

All students are required to assemble in the auditorium Monday mornings.

Students neglecting any recitation or absenting themselves without good excuse are suspended from the privileges of the school.



A record is kept of the rank and attendance of each student, and an abstract is sent to the parent or guardian once a month.

### RELIGIOUS SERVICES.

Religious exercises are held in the auditorium four times a week. The services consist of the Lord's Prayer and reading of the Scripture. The students have formed a Christian Association that meets once a week. There are Baptist, Congregational, Presbyterian, Unitarian, Episcopalian and Catholic churches in town, which students may attend.

No teacher or student is required to attend or to participate in any religious service.





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# CATALOGUE

OF THE

# UNIVERSITY OF COLORADO,

◀BOULDER, COLORADO.▶

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SEPT., 1886—JUNE, 1887.

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DENVER, COLO.  
The Republican Publishing Co.  
1887.

## CALENDAR.

1887.							1887.							1888.						
JUNE.							NOVEMBER.							APRIL.						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
.	.	.	I	2	3	4	.	.	I	2	3	4	5	I	2	3	4	5	6	7
5	6	7	8	9	10	11	6	7	8	9	10	11	12	8	9	10	11	12	13	14
12	13	14	15	16	17	18	13	14	15	16	17	18	19	15	16	17	18	19	20	21
19	20	21	22	23	24	25	20	21	22	23	24	25	26	22	23	24	25	26	27	28
26	27	28	29	30	.	.	27	28	29	30	.	.		29	30	.	.	.	.	.
JULY.							DECEMBER.							MAY.						
.	.	.	.	.	I	2	.	.	.	.	I	2	3	.	.	I	2	3	4	5
3	4	5	6	7	8	9	4	5	6	7	8	9	10	6	7	8	9	10	11	12
10	11	12	13	14	15	16	11	12	13	14	15	16	17	13	14	15	16	17	18	19
17	18	19	20	21	22	23	18	19	20	21	22	23	24	20	21	22	23	24	25	26
24	25	26	27	28	29	30	25	26	27	28	29	30	31	27	28	29	30	31	.	.
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AUGUST.							JANUARY—1888.							JUNE.						
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7	8	9	10	11	12	13	8	9	10	11	12	13	14	3	4	5	6	7	8	9
14	15	16	17	18	19	20	15	16	17	18	19	20	21	10	11	12	13	14	15	16
21	22	23	24	25	26	27	22	23	24	25	26	27	28	17	18	19	20	21	22	23
28	29	30	31	.	.	.	29	30	31	.	.	.	.	24	25	26	27	28	29	30
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11	12	13	14	15	16	17	12	13	14	15	16	17	18	15	16	17	18	19	20	21
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25	26	27	28	29	30	.	26	27	28	29	.	.	.	29	30	31	.	.	.	.
OCTOBER.							MARCH.							AUGUST.						
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9	10	11	12	13	14	15	11	12	13	14	15	16	17	12	13	14	15	16	17	18
16	17	18	19	20	21	22	18	19	20	21	22	23	24	19	20	21	22	23	24	25
23	24	25	26	27	28	29	25	26	27	28	29	30	31	26	27	28	29	30	31	.
30	31	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

## ANNOUNCEMENTS.

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COMMENCEMENT . . . . . May 31, 1887.  
EXAMINATIONS FOR ADMISSION . . May 28; Sept. 6, 1887.  
FIRST SEMESTER WILL BEGIN . . . . . Sept. 7, 1887.  
WINTER RECESS . . . . . Dec. 17, 1887, to Jan. 1, 1888.  
EXERCISES RESUMED . . . . . Jan. 2, 1888.  
FIRST SEMESTER WILL CLOSE . . . . . Jan. 27, 1888.  
SECOND SEMESTER WILL BEGIN . . . . . Jan. 30, 1888.  
SPRING RECESS . . . . . March 24 to April 1, 1888.  
COMMENCEMENT . . . . . May 29, 1888.  
EXAMINATIONS FOR ADMISSION . . . . . May 26, 1888.

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## PREPARATORY AND NORMAL SCHOOLS.

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THIRD TERM CLOSES . . . . . May 31, 1887.  
FIRST TERM WILL BEGIN . . . . . Sept. 7, 1887.  
FIRST TERM WILL CLOSE . . . . . Dec. 16, 1887.  
SECOND TERM WILL BEGIN . . . . . Jan. 2, 1888.  
SECOND TERM WILL CLOSE . . . . . March 23, 1888.  
THIRD TERM WILL BEGIN . . . . . April 2, 1888.  
THIRD TERM WILL CLOSE . . . . . May 29, 1888.  
EXAMINATIONS FOR ADMISSION . . . May 28; Sept. 6, 1887.

## BOARD OF REGENTS.

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S. A. GIFFIN, B. A.,	<i>Boulder,</i>	Term expires, 1888.
LEONIDAS S. CORNELL,	<i>Denver,</i>	Term expires, 1888.
ROGER W. WOODBURY,	<i>Denver,</i>	Term expires, 1890.
DANIEL E. NEWCOMB,	<i>La Jara,</i>	Term expires, 1890.
E. J. TEMPLE,	<i>Boulder,</i>	Term expires, 1892.
WOLFE LONDONER,	<i>Denver,</i>	Term expires, 1892.

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## OFFICERS OF THE BOARD.

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HORACE M. HALE,	-	-	-	President.
S. A. GIFFIN,	-	-	-	Secretary.
C. G. BUCKINGHAM,	-	-	-	Treasurer.

## FACULTY AND INSTRUCTORS.

---

JOSEPH A. SEWALL, M. D., LL. D., PRESIDENT,\*  
*Professor of Chemistry and Metallurgy.*

HORACE M. HALE, A. M.,†  
*Professor of Didactics.*

I. C. DENNETT, A. M.,  
*Professor of Latin.*

MARY RIPPON,  
*Professor of German and French.*

JAMES W. BELL, Ph. D. (Leipzig),  
*Professor of Political Economy and History.*

J. RAYMOND BRACKETT, Ph. D. (Yale),  
*Professor of English Literature and Greek.*

CHARLES S. PALMER, Ph. D.,  
*Professor of Chemistry.*

JAMES H. KIMBALL, M. D.,  
*Professor of Principles and Practice of Medicine, Materia  
Medica and Therapeutics.*

H. W. McLAUTHLIN, M. D.,  
*Professor of Obstetrics and Diseases of Women and Children.*

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\*Until July 1, 1887. †President after July 1, 1887.

GEORGE CLEARY, M. D.,

*Professor of Surgery, Ophthalmology and Otology.*

W. J. WAGGENER, A. M.,

*Professor of Physics.*

L. M. GIFFIN, M. D.,

*Professor of Anatomy and Physiology.*

W. W. CAMPBELL, B. S. (C. E.),

*Professor of Mathematics.*

R. N. MAYFIELD, M. D.,

*Lecturer on Pathology and Hygiene.*

JUDGE J. M. NORTH,

BOULDER.

*Lecturer on Medical Jurisprudence.*

G. B. BLAKE, M. D.,

BOULDER.

*Demonstrator of Anatomy.*



## GENERAL STATEMENT.

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The Constitution of the State of Colorado provides for the election of a Board of Regents of the University and defines its duties. The organic act, establishing the University and providing for its maintenance, was passed by the General Assembly of Colorado, March 15, 1877. Its object, as defined by that act, is "*to provide the best and most efficient means of imparting to young men and women, on equal terms, a liberal education and thorough knowledge of the different branches of literature, the arts and sciences, with their varied applications.*"

## HISTORY.

The University of Colorado was incorporated by an act of the Territorial Legislature of 1860, and the location fixed at Boulder. In 1871 three public-spirited citizens donated to the University fifty-two acres of land adjoining the city, valued at \$5,000. In 1874 the Territorial Legislature appropriated \$15,000, and the citizens of Boulder contributed a like sum in cash. In 1875 Congress set apart and reserved seventy-two sections of the public lands for the support of the State University. In 1876 the Constitution of Colorado provided that upon its adoption the University at Boulder should become an institution of the State, thus entitling it to the lands appropriated by Congress, and further made provisions for the management and control of the University. The first General

Assembly of the State made provision for its permanent support by a levy of a tax of one-fifth of a mill upon the property of the State; also for a fund to be secured by the sale of the lands donated by the United States.

The Institution was opened September, 1877, with two teachers and forty-four pupils.

In 1878 the General Assembly appropriated \$7,000 for apparatus, furniture, etc. In 1883 the General Assembly provided a special fund by a tax levy of one-fifth of a mill for the years 1883 and 1884, yielding about \$40,000. This fund has been expended for books, apparatus, furniture, additional buildings, and for the improvement of the grounds. The State has provided liberally for the maintenance of the University, and affords her sons and daughters facilities for acquiring a thorough education.

### LOCATION.

The University has a beautiful situation upon the high grounds on the south side of Boulder creek, and overlooks the city of Boulder. The scenery is not surpassed, if equaled, in the whole Rocky Mountain region. To the west are seen the boldest and highest foot-hills of the range, and far away the ever snow-capped summit of Arapahoe Peak. On the south rises the beautiful *mesas* or table lands; while to the north and east as far as the eye can reach extend fertile plains, dotted with lakes, and in June beautifully green with crops of cereals. The tourist may find in Boulder, South Boulder, and Bear Cañons, and on the road to Sunshine and Gold Hill, scenery as grand, varied, and beautiful as any in the State, or even in Switzerland. The climate is all that could be desired, neither excessively warm in summer nor cold in winter. The close proximity of some of the richest mines of the State, and the extensive reduction works where the crude

ore is treated, afford students of chemistry and metallurgy rare opportunities for obtaining a practical knowledge of these sciences.

### BUILDINGS.

The corner-stone of the main structure was laid September 20, 1875; the building is about sixty feet by one hundred, and has been completed at a cost of forty-five thousand dollars. The basement contains the armory, music room, janitor's quarters, and a society room; on the first floor are three recitation rooms, the offices, and a fine auditorium; the library is on the second floor, and the chemical laboratory on the third.

Four new buildings have been erected—the President's house, two cottages, and the hospital. All the buildings are of brick; four are supplied with bath-rooms and three with hot water. The students' cottages offer neat and healthful accommodations at very low rates.

### APPARATUS AND CABINET.

Additions will be made to the physical apparatus, so that almost every branch of physics can be illustrated by instruments of the latest design.

The Cabinet contains a valuable collection of minerals and specimens to illustrate the geology, natural history and botany of the Northwest. The Herbarium contains over seven hundred specimens from Colorado, and has been arranged with great care in accordance with Gray's Manual of Botany. A collection of corals and shells, and a collection of fossils and rocks, illustrating the geology of Colorado, have recently been added.

J. Alden Smith, State Geologist, donated his cabinet of minerals, one of the best arranged in the United States, the cash value of which is at least \$5,000.

## CHEMICAL LABORATORY.

The appliances for the theoretical and practical study of Chemistry have been greatly improved and extended from year to year. One-half of an entire story of the building has been devoted to the Chemical Laboratory, weighing room, and chemical store room. The Laboratory is *complete*. Four thousand dollars have been expended in making this Laboratory equal to the best in the country. For laboratory practice each student has the exclusive use of a table supplied with a complete set of re-agents and the necessary apparatus for experimental work. The weighing room adjoining the Laboratory is supplied with a Troemner's assay balance, Troemner's ore scale, and two Becker & Son's analytical balances. Adjoining the Laboratory is the chemical store room. The stock of chemicals from the celebrated house of H. Trommsdorf, in Erfurt, is entirely adequate to the most complete and extended course of study in the department of Chemistry.

Aside from the advantages offered by the Laboratory for the study of metallurgy, the gold and silver mines of Boulder County and the reduction works of Boulder and vicinity offer rare facilities for obtaining a knowledge of the treatment of ores.

## LIBRARY AND READING ROOM.

The Library is named in honor of C. G. Buckingham, of Boulder. The Regents have appropriated a sum equal to the matriculation fees for the support of the Reading Room. The Librarian, or an assistant, is in attendance during library hours to render such aid in the selection of books as may be desired.

A well-furnished Reading Room, containing the leading periodicals, magazines and reviews, is open to all upon

the payment of one dollar per annum. The following is a partial list of the periodicals regularly received :

North American Review,	Bulletin Torrey Botanical
Contemporary Review,	Club,
Fortnightly Review,	Anglia,
Edinburg Review,	Englische Studien,
Quarterly Review,	Nature,
Westminster Review,	Co-operative Index to Peri-
Blackwood's Magazine,	odicals,
Nineteenth Century,	Forum,
Atlantic Monthly,	Literary News,
Harper's Monthly,	American Chemical Journal.
Century,	Popular Science Monthly,
Nation,	Political Science Quarterly,
Education,	Popular Science News,
New Englander.	American Journal of Mathe-
Library Journal,	matics,
Fliegende Blaetter,	New Princeton Review,
Deutsche Rundschau,	Scottish Review,
Revue des Deux Mondes,	Shakespeariana,
Journal des Economistes,	Journal fuer die Reine und
Mind,	Angewandte Mathematik.
Andover Review,	Colorado Daily and Weekly
Annals of Mathematics,	Papers.

## LITERARY SOCIETIES.

The Philomathean Society is open to students of the Preparatory and Normal departments, and has become a valuable means of discipline and culture.

The Bell Literary Society has been organized by the students in the Department of Philosophy and the Arts; its exercises, consisting of original essays, orations, and debates, are of such a nature as to awaken enthusiasm and supplement the training of the class-room.



## RELIGIOUS SERVICES.

Religious exercises are held in the auditorium four times a week. The services consist of the Lord's Prayer and reading of the Scripture.

Students connected with the University conduct religious exercises under the auspices of the Young Men's and the Young Women's Christian Associations.

There are Baptist, Catholic, Congregational, Episcopalian, Methodist, Presbyterian and Unitarian churches in town, which students may attend.

No teacher or student is required to attend or to participate in any religious service.

## FEES AND EXPENSES.

There is no charge to residents of the State for tuition.

The fees and expenses are as follows :

A reading-room fee of one dollar per annum; a matriculation fee of five dollars for residents of the State, and ten dollars for non-residents; and an annual fee of fifteen dollars for non-residents.

These fees are payable in advance.

Students who pursue Laboratory courses of study are required to pay for the materials and apparatus actually consumed by them. The Laboratory expenses of students will vary with their prudence and economy.

In the Medical Department there is a fee of ten dollars for graduation and diploma.

Students obtain board and lodging in private families at four to six dollars a week. Room rent varies from one to two dollars a week for each student.



Since January 5, 1885, students living in the cottages erected on the campus have been subject to the following *fixed rates* :

Table board, fuel, lamp oil, unfurnished	
room, per week,        -        -        -	\$4 00
For any part of a week, per meal,        -        -	20
For dinners only,        -        -        -	33
For unfurnished room, fuel, and lamp oil,	
per month,        -        -        -        -        -	3 50

Board and room money must be paid in advance for each month.

The cost of washing at the cottage laundry averages forty-eight cents a dozen; in town, seventy-five cents.

There is no charge for the use of bath-rooms.

Two hundred dollars a year will pay all University bills and necessary expenses for board, fuel, lights, washing, books, and stationery.

Rooms will be assigned the first day of the fall term. Application may be made at any time. Storage will be provided for furniture during the summer vacation.

## DEPARTMENTS.

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The departments of instruction in the UNIVERSITY OF COLORADO are comprehended under four divisions, as follows:

The Department of PHILOSOPHY AND THE ARTS.

The Department of MEDICINE.

The NORMAL SCHOOL.

The PREPARATORY SCHOOL.

The Department of PHILOSOPHY AND THE ARTS includes courses leading to the degrees of Bachelor of Arts, Bachelor of Philosophy, Bachelor of Science, and Bachelor of Letters.

Department of  
Philosophy and the Arts.

## FACULTY.

---

JOSEPH A. SEWALL, M. D., LL. D., PRESIDENT,  
Until July 1, 1887.

HORACE M. HALE, A. M., PRESIDENT,  
After July 1, 1887.

I. C. DENNETT, A. M.

MARY RIPPON.

JAMES W. BELL, Ph. D.

J. RAYMOND BRACKETT, Ph. D.

W. J. WAGGENER, A. M.

W. W. CAMPBELL, B. S. (C. E.)

C. S. PALMER, Ph. D.

## REQUIREMENTS FOR ADMISSION.

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Students who pass a satisfactory examination on seventy per cent. of the subjects required may enter conditioned on the remainder. Conditioned students will make up deficiencies by recitation in the Preparatory School of the University.

### I. CANDIDATES FOR THE DEGREE OF BACHELOR OF ARTS.

In 1887-8 candidates for Courses leading to the degree of Bachelor of Arts will be examined in the following subjects:

1. LATIN.—Elements of Grammar; Tetlow's Latin Lessons, or an equivalent; the translation at sight of easy Latin prose; the translation into Latin of simple English sentences suitable to those who have taken Jones's Composition; Cæsar, four books; Cicero, four orations; Virgil, six books of the *Æneid*.

2. GREEK.—White's First Lessons; Hadley's or Goodwin's Greek Grammar; Xenophon's *Anabasis*, three books; *Iliad*, two books, omitting the catalogue of ships; translation into Greek of simple sentences suitable to students who have taken Jones's Greek Prose Composition.

3. HISTORY AND GEOGRAPHY.—Outlines of General History; Roman History; the Geography connected with

the study of Greek and Roman History,\* and the Greek and Latin authors read.

4. MATHEMATICS—ARITHMETIC.—Ficklin's Arithmetic, or an equivalent in other authors, including the Metric System of Weights and Measures.

*Algebra.*—Olney's Complete School Algebra, or an equivalent in other authors.

*Geometry.*—The first three books of Chauvenet's Geometry.

After 1887, the whole of Chauvenet's Geometry, or an equivalent, will be required.

5. ENGLISH.—English Grammar and Analysis.

## II. CANDIDATES FOR THE DEGREE OF BACHELOR OF PHILOSOPHY.

Candidates for Courses leading to the degree of Bachelor of Philosophy will be examined on 1, 3, 4, 5, under I., and on English Analysis, Parsing, and History of England. In place of Greek, the elements of Physics, Astronomy, and Botany; one year's German.

## III. CANDIDATES FOR THE DEGREE OF BACHELOR OF SCIENCE.

Candidates for Courses leading to the degree of Bachelor of Science will be examined on the following subjects:

I. ENGLISH LANGUAGE, MATHEMATICS, HISTORY, AND PHYSICS.—The same as under II., excepting Roman History.



2. GERMAN.—Principles of German Grammar (Whitney's or Otto's preferred); translation from English into German, and sight translations from ordinary German into English.

3. LATIN.—Two years of Latin, including four books of Cæsar.

4. SCIENCE.—The elements of Astronomy, Botany and Chemistry.

#### IV. CANDIDATES FOR THE DEGREE OF BACHELOR OF LETTERS.

This examination is offered for students who come from schools where foreign languages are not taught.

Candidates for Courses leading to the degree of Bachelor of Letters will be received after passing a satisfactory examination in the following requirements:

A. ENGLISH.—1. Parsing. 2. Analysis. 3. Hart's Rhetoric, complete. 4. Kellogg's English Literature.

B. MATHEMATICS.—*Arithmetic*.—Fundamental Rules, Fractions, Denominate Numbers, Percentage, Proportion. *Algebra*.—Fundamental Rules, Fractions, Simple Equations, Eliminations, Involution, Evolution, Calculus of Radicals, Quadratic Equations, Ratio, Proportion, Progressions. (Olney's Complete School Algebra.)

*Geometry*.—Plane and Solid Geometry. (Chauvenet.)

C. HISTORY, GEOGRAPHY, ETC.—Outlines of General History; History of England; Civil Government; Houston's Physical Geography.

D. SCIENCE.—1. *Physiology*.—Hooker, Youman or Dalton.

2. *Physics*.—Elements of Natural Philosophy. (Gage.)

3. *Botany*.—First twenty-seven chapters of Gray's Lessons.

4. *Chemistry*.—The Elements of Inorganic Chemistry. (Eliot and Storer, or Roscoe.)

Students who pass this examination will be received in all courses that can be pursued without a knowledge of Latin, Greek, French, and German.

Candidates will be credited for advanced standing with any work in addition to the above on which they pass a satisfactory examination.

## COURSES OF STUDY.

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The various branches taught are offered to the student in *courses of study*. A *full course of study*, as here used, means five exercises a week throughout a semester. The student is required to complete twenty-four full courses in order to obtain the recommendation of the Faculty for a degree. Some are prescribed, but sufficient option is given for the student to direct his training in accordance with his inclinations and adaptability.

Students who are candidates for a degree take the prescribed work and select in addition courses enough to make up the full amount of work required. Special students, that is, those not candidates for a degree, select such work as they desire from the courses pursued at the time. No student may take more than fifteen exercises a week, except by vote of the Faculty.

No student will be permitted to change his course or drop any study, except by vote of the Faculty, and then only at the beginning of a semester.

All required courses will be given, but instructors may decline to give optional courses to less than five applicants. It is expected that each student will have an opportunity to pursue any course before taking his degree.

# COURSES FOR THE BACHELOR'S DEGREE. LATIN.

COURSE.			
1	{ FIRST SEMESTER.....	Horace ; Roman Literature ; Lyric Poetry.....	Full Course.
	{ SECOND SEMESTER.....	Livy ; Roman History.....	Full Course.
2	{ FIRST SEMESTER.....	Cicero (De Senectute, De Immortalitate) ; Ancient Philosophy.....	Full Course.
	{ SECOND SEMESTER.....	Tacitus (Germania et Agricola) ; Roman History.....	Full Course.
3	{ FIRST SEMESTER.....	Juvenal ; Origin and Development of Ancient Satire.....	Three-fifths.
	{ SECOND SEMESTER.....	Terence ; Drama.....	Two-fifths.
4	{ FIRST SEMESTER.....	Latin Prose.....	Three-fifths.
	{ SECOND SEMESTER.....	Cicero's Letters.....	Two-fifths.
5	{ FIRST SEMESTER.....	Selections for Sight Reading.....	Two-fifths.
	{ SECOND SEMESTER.....	Ovid ; Mythology.....	Three-fifths.
6	{ FIRST SEMESTER.....	Classical Antiquities.....	Two-fifths.
	{ SECOND SEMESTER.....	Course for Teachers (Æneid).....	Three-fifths.

Courses 1, 2 and 3 must be taken before Course 6.

## COURSES FOR THE BACHELOR'S DEGREE.

## GREEK.

COURSE.		
6-----	{ FIRST SEMESTER ----- The Iliad ; History of Greece ----- { SECOND SEMESTER ----- The Odyssey ; Homeric Criticism -----	Full Course.
7-----	{ FIRST SEMESTER ----- Sophocles ; Greek Literature ----- { SECOND SEMESTER ----- Aeschylus ; Euripides ; Greek Art -----	Full Course.
8-----	{ FIRST SEMESTER ----- Lyric Poetry ----- { SECOND SEMESTER ----- Aristophanes ; Greek Comedy -----	Two-fifths.
9-----	{ FIRST SEMESTER ----- Greek Prose Composition ----- { SECOND SEMESTER ----- Demosthenes (De Corona) ; Greek Oratory -----	Three-fifths.
10-----	{ FIRST SEMESTER ----- Memorabilia of Socrates ----- { SECOND SEMESTER ----- Plato's Republic ; Greek Philosophy -----	Two-fifths.
11-----	{ FIRST SEMESTER ----- Herodotus ; History of Greece ----- { SECOND SEMESTER ----- Thucydides ; History of Greece -----	Three-fifths.
		Two-fifths.

All these Courses may be completed in four years. Students in Greek are advised to take the Linguistics of Course 12.

COURSES FOR THE BACHELOR'S DEGREE.  
ENGLISH PHILOLOGY, LITERATURE AND RHETORIC.

COURSE.	THROUGH THE YEAR.	
12-----	{ Sweet's Anglo-Saxon Reader, Beowulf; three times a week. { Whitney's "Life and Growth of Language"; twice a week	Two Full Courses.
13-----	{ Early English (Morris and Skeat) { History of the English Language	Two Full Courses.
14-----	{ Study of English Authors; Criticism; Lectures on the English Language { Courses of Reading; Dictations; Lectures on Development of English Literature	Two Full Courses.
15-----	Comparative Literature----- { First Semester; Epic Poetry. { Second Semester; The Drama; the Lyric-----	Full Course. Full Course.
16-----	Rhetoric-----	Two three-fifths Courses.
17-----	Essays, Speeches and Debates-----	Two two-fifths Courses.
18-----	English Authors of America-----	Two Full Courses.

Students wishing to take a four years' course in English are advised to take Courses 12, 13, 14, 15, in order; such students may receive instruction in Sanskrit, Gothic and Italian. Courses 14, 16, and 17 are a continuation of the work in the Preparatory School and form a two years' course. Candidates for the Degree of B. L. must ask for a course of reading in Classical Mythology before electing Courses 14 and 15.



## COURSES FOR THE BACHELORS' DEGREE.

## GERMAN.

COURSE.	FIRST SEMESTER.	
19-----	Beginning German—Whitney's Grammar and Reader-----	Full Course.
21-----	German Lyrics and Ballads-----	Full Course.
20-----	German Plays, Tales, and Conversation-----	Full Course.
25-----	Modern Fiction-----	Two-fifths Course.
121-----	German Prose Composition-----	Three-fifths Course.
	SECOND SEMESTER.	
23-----	German Historical Dramas-----	Full Course.
22-----	Goethe's Faust-----	Three-fifths Course.
24-----	Literaturgeschichte-----	Full Course.
26-----	Hermann und Dorothea; Nathan der Weise-----	Two-fifths Course.
122-----	German Prose Composition-----	Two fifths Course.

## COURSES FOR THE BACHELOR'S DEGREE.

## FRENCH.

COURSE.	FIRST SEMESTER.	
27-----	Beginning French—Whitney's Grammar-----	Full Course.
29-----	French Prose-----	Three fifths Course.
31-----	Paul Albert (Litterature Française)-----	Full Course.
33-----	Alfred de Vigny's Cinq Mars-----	Two-fifths Course.
	SECOND SEMESTER.	
28-----	La Fontaine's Fables; Modern Comedies-----	Full Course.
30-----	Athalie; L'Avare; Le Cid-----	Full Course.
32-----	French Historical Prose-----	Two-fifths Course.
34-----	Prose of the Nineteenth Century-----	Three-fifths Course.
<p>Courses 27 and 28 are offered for the year 1887-88, and for every second year thereafter.</p>		

## COURSES FOR THE BACHELOR'S DEGREE.

## MATHEMATICS.

(Continued on next page.)

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
35.-----	Higher Algebra and Theory of Equations-----	Four-fifths Course. ----	Olney, Burnside and Panton.
36.-----	Modern Geometry-----	One-fifth Course. ----	Olney, Chauvenet.
39.-----	Plane Analytics and Calculus-----	Full Course. ----	Olney, Rice & Johnson, Williamson.
41.-----	Differential and Integral Calculus (Con- tinuation of Course 40.)-----	Three-fifths Course. ----	Olney, Rice & Johnson, Williamson.
42.-----	Determinants-----	Three-fifths Course. --	Hanus, Burnside and Panton, Dostor, Scott.
43.-----	Solid Analytics-----	Three-fifths Course. ----	Aldis, Frost.

# COURSES FOR THE BACHELOR'S DEGREE.

## MATHEMATICS.

(Continued.)

COURSE.	SECOND SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
37-----	Plane and Spherical Trigonometry -----	Four-fifths Course -----	Olney, Chauvenet, Oliver, Wait, and Jones.
38-----	Curve Tracing -----	One fifth Course -----	Frost, Johnson.
40-----	Differential and Integral Calculus (Con- tinuation of Course 39.) -----	Full Course -----	Olney, Rice & Johnson, Williamson.
44-----	Quaternions -----	Three-fifths Course -----	Hardy, Tait.
47-----	*Elective Work -----		
114-----	Surveying -----	Three-fifths Course -----	Henck, Gillespie.

\*Special work on any subject chosen by the student. Course 47 is for advanced students only.

COURSES FOR THE BACHELOR'S DEGREE.  
PHYSICAL SCIENCE.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
48-----	General Physics—Lectures and Recitations	Full Course-----	Daniell, Jansin, Müller.
46-----	Mechanics -----	Three-fifths Course-----	Todhunter, Tait and Steele.
	SECOND SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
119-----	General Physics—Lectures and Recitations.	Full Course-----	
118-----	Meteorology -----	Two-fifths Course-----	Loomis.
52-----	Astronomy -----	Three-fifths Course-----	Newcomb, Chambers.

## COURSES FOR THE BACHELOR'S DEGREE.

## BOTANY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
72-----	Cryptogamic Botany-----	Full Course-----	Gray, Sachs.
73-----	Structural and Physiological Botany-----	Two-fifths Course-----	Berkeley, Bessey.
	SECOND SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
71-----	Phaenogamic Botany-----	Full Course-----	McAlpine's Atlases.



## COURSES FOR THE BACHELOR'S DEGREE.

## CHEMISTRY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
54-----	Qualitative Analysis of <i>known</i> substances. } Five hours a week in Laboratory dur- } ing four months-----	Four-fifths course-----	{ Eliot and Storer. { Miller and Bloxam, Appleton.
56-----	Quantitative Analysis. Two hours a week } in Laboratory-----	Full course-----	Muspratt's Chemistry.
59-----	Organic Chemistry. Lectures-----	Two-fifths course-----	Fresenius' Qualitative and Quantitative Analysis.
61-----	Assaying Ores—Wet way. Laboratory } work-----	Two-fifths course-----	Well's Outlines of Chemical Analysis.
62-----	Assaying Ores—Dry way. Laboratory } work-----	Three-fifths course-----	Liebig's Complete Works; Ricketts.
	SECOND SEMESTER.		REFERENCE BOOKS.
55-----	Qualitative Analysis of <i>unknown</i> sub- } stances. Five hours a week in Labora- } tory during six months-----	One and one-fifth course-----	Storer's Dictionary of Chemical Solubilities.
57-----	Volumetric Analysis. Laboratory work-----	Two-fifths course-----	Schellen's Spectrum Analysis.
58-----	Blow-pipe Analysis. Laboratory work-----	Three-fifths course-----	{ Plattner's Qualitative and Quantitative Analysis with the { Blow-pipe.
60-----	Ultimate Organic Analysis-----	Full Course-----	Crooke's Mitchell's Manual of Practical Assaying.
63-----	Original Research-----	Full Course-----	

## COURSES FOR THE BACHELOR'S DEGREE.

## ZOOLOGY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
64.-----	General Zoology, Text Book and Lectures--	Three-fifths Course-----	Carpenter, Nicholson, Packard, Scudder, Wilson.
67.-----	Conchology, with special reference to the } Shells of Colorado.-----	Two-fifths Course-----	Binney, Woodward.
	SECOND SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
65.-----	Laboratory Work. (Dissections)-----	Two-fifths Course-----	Huxley, Morse.
66.-----	Ornithology, with special reference to } Colorado Birds.-----	Two-fifths Course-----	Coues, Baird.

## COURSES FOR THE BACHELOR'S DEGREE.

## GEOLOGY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
68-----	General Geology; Text Book and Lectures---	Two-fifths Course-----	Dana, LeConte, Dawson, Wilson, Lyell.
	SECOND SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
69-----	General Geology; Text Book and Lectures---	Three-fifths.....	Hayden's Reports.
70-----	Paleontology—with special reference to } the fossils of Colorado.-----}	Two-fifths -----	Wheeler's Reports.

COURSES FOR THE BACHELOR'S DEGREE.  
\* POLITICAL ECONOMY AND HISTORY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS.
74.-----	Ethnology of Europe---Lectures-----	One-fifth Course-----	
75.-----	General History of Europe from the Re-formation to the Congress of Vienna.-----	Three-fifths Course-----	Fisher's Outlines.
76.-----	English History During the Tudor and Stuart Periods-----	Three-fifths Course-----	Green's History of the English People.
77.-----	Introduction to Constitutional Law-----	Two-fifths Course-----	Cooley's U. S. and Dicey's England.
78.-----	History of the Middle Ages-----	Full Course-----	Hallam's Middle Ages and Selections from Gibbon.
80.-----	General History of Europe from the Peace of Westphalia-----	Three-fifths Course-----	Fisher's Outlines.
81.-----	International Law-----	Two-fifths Course-----	Woolsey's International Law.
82.-----	Elements of Political Economy: Lectures and Discussions-----	Full Course-----	
83.-----	Political Economy: Recitations and Discussions-----	Full Course-----	Mill and Cairnes.
84.-----	Lectures on Emigration and Questions arising therefrom-----	One-fifth Course-----	The Lecturer's Pamphlet—"Thoughts on Emigration."

\*Original work is required in all the Courses. See also Courses 94 and 95.

## COURSES FOR THE BACHELOR'S DEGREE.

## MENTAL AND MORAL SCIENCE.

COURSE.	SECOND SEMESTER.		TEXT BOOKS.
85-----	Logic : Deductive and Inductive in Outline.	Two-fifths Course-----	Jevons.
87-----	Logic : Nature and Method-----	Two-fifths Course-----	Thompson's Outlines of the Laws of Thought.
88-----	Mental Philosophy : Senses ; Intellect ; Will.	Three-fifths Course-----	Sully's Outlines of Psychology.
89-----	Mental Philosophy : Origin of Knowledge, { etc.; Lectures and Recitations-----}	Full Course -----	Locke's Essay.
92-----	Moral Philosophy ; Lectures and Recitations.	Three-fifths Course-----	Green's Prolegomena.
93-----	Introduction to Philosophy of Kant.	Three-fifths Course-----	Morris's Kant.
94-----	{ History of Ancient Philos- } With special re- ophy, ----- ference to so- History of Modern Philos- } cial and politi- ophy, ----- cal theories-----	{ Three-fifths Course----- Three-fifths Course----- }	Schwegler's History of Philosophy.
95-----			

## REQUIREMENTS FOR GRADUATION.

Five exercises a week during a semester, whether in recitations, laboratory work, or lectures, constitute a *full course of study*. Students must satisfactorily complete *twenty-four full courses* to obtain the recommendation of the Faculty for a degree. It is not essential that the exercises constituting a *full course* shall be in one and the same branch of study; but the student's choice must be approved.

## THE DEGREE OF BACHELOR OF ARTS.

Of the twenty-four full courses which the student is required to complete to obtain the recommendation of the Faculty for the degree of Bachelor of Arts, ten are *prescribed*: one full year in Latin; one in Greek; one in mathematics; and a second year in any two of these subjects. From the other courses offered, the student must select and complete enough to make *twenty-four full courses*.

## THE DEGREE OF BACHELOR OF PHILOSOPHY.

Of the twenty-four full courses which the student is required to complete to obtain the recommendation of the Faculty for the degree of Bachelor of Philosophy, ten are *prescribed*: four courses in Latin; two in mathematics; and four in philosophy. From the remaining courses offered, the student must select and complete enough to make *twenty-four full courses*.

## THE DEGREE OF BACHELOR OF SCIENCE.

Of the twenty-four full courses which the student is required to complete to obtain the recommendation of the Faculty for the degree of Bachelor of Science, sixteen are *prescribed*: four in mathematics; six in science (48, 52, 54,



56, 71 and 119); two in philosophy; two in German; and two in French (29 and 30). From the remaining courses offered, the student must select and complete enough to make *twenty-four full courses*.

### THE DEGREE OF BACHELOR OF LETTERS.

For the degree of Bachelor of Letters, thirteen courses are *prescribed*: one in mathematics; two in philosophy; two in English; four in French; and four in German. From the remaining courses offered, the student must select and complete enough to make *twenty-four full courses*.

### MASTER OF ARTS AND MASTER OF SCIENCE.

Upon application to the President by any Bachelor of Arts or Bachelor of Science, for an advanced degree, a special committee of the Faculty is appointed, under whose direction the candidate lays out his work and prepares his thesis to secure the degree of Master of Arts or Master of Science. Such application must be accompanied by a statement of the branches of study to which the candidate desires to give special attention.

### PARTIAL WORK.

Certificates of the following form are given to students who comply with the necessary requirements:

*University of Colorado.*

THIS CERTIFIES, That \_\_\_\_\_ has completed the prescribed course of study in \_\_\_\_\_.

\_\_\_\_\_,

President.

These certificates are given, on application, to all students who have satisfactorily completed certain courses if the minimum required for a degree has been taken.

## RESIDENT GRADUATES.

Graduates of this University, or of any other university or college, desirous of continuing their studies, may attend public lectures and use the library, laboratory, apparatus and scientific collections, subject to such rules as the Faculty may establish. They may also receive private instruction from the professors in the respective departments.

## ADVANCED STANDING.

Students coming from institutions of like grade should bring certificates definitely stating the amount of work done in each subject. Real equivalents will be accepted. Graduation depends not upon the time spent, but upon work actually accomplished.

## GOVERNMENT.

The discipline of the institution is administered with firmness and impartiality. It aims to develop self-control, manliness, and a generous public spirit; to induce such a high moral sentiment as will be in itself a powerful governing force in the school.

# Normal School.

HORACE M. HALE, A. M., PRINCIPAL.



## NORMAL SCHOOL.

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The object of this department is the training of teachers for the public schools of the State. Students who have completed either of the courses of the Preparatory School, and those who have covered the work of approved High Schools; also, teachers of some experience who wish to become better teachers, will be admitted to this department, and special attention given to such branches of study, practical exercises and exemplifying methods, as will enable students not only to obtain high-grade certificates at County Superintendents' examinations, but to do good work in the school room. Lectures on pedagogics and familiar talks, covering the various subjects connected with school work, will be given from time to time. Members of the class will be called upon to conduct recitations in the presence of the Principal, who will criticize, and suggest. All the work of this department will be made as practical as circumstances will permit.

Among the advantages of having the State Normal School in connection with the State University are the following: (1) The pupils come in contact with and are aroused by the University spirit. (2) The pupils have opportunities for better instruction. (3) It permits a more extended course and hence tends to raise the scholarship of the teachers in the State.

### ADMISSION.

Applicants for admission to the Normal School must be at least sixteen years of age, and must declare that it is their intention to become teachers.

They must also pass a satisfactory examination in reading, writing, spelling, arithmetic, geography, United States history, and the elements of English grammar.

Special attention will be paid to the candidate's knowledge of the fundamental rules of arithmetic, and the ability to perform operations in them rapidly and correctly. A practical familiarity with the common abbreviations, marks of punctuation, and the rules for the use of capital letters is required.

Each student should bring a letter from his last teacher, or from some responsible person, giving an account of his application to study, efficiency in work, and probable adaptation to the business of teaching.

Examinations for admission are held at the same time as those for the Preparatory School.

## DIPLOMA OF THE NORMAL SCHOOL.

All students who complete the prescribed work of the Preparatory School, except the foreign languages of the last two years, and who complete the courses of pedagogical work, will receive the diploma of the Normal School.

## STUDENTS RECOMMENDED FOR TEACHERS.

The State University, standing at the head of the public schools, is called to supply teachers for all grades, from the lowest to the highest. County Superintendents and School Boards are assured that the Faculty will recommend only such students for teachers as, in their opinion, have made a good record.



Preparatory School.



## PREPARATORY SCHOOL.

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The object of this school is to prepare students for courses leading to the Bachelor's degree. The course of study covers three years.

### REQUIREMENTS FOR ADMISSION.

Applicants for admission to the Preparatory School must pass an examination in arithmetic, geography, outlines of United States history, and elements of English grammar.

### ADMISSION TO ADVANCED STANDING.

Those proposing to enter any course at an advanced standing will be examined in such studies as have been pursued previous to their admission.

### COURSES OF STUDY.

The work of the first year is the same for all students. At the beginning of the second year, students intending to take courses leading to the degree of Bachelor of Arts commence Greek; other students may take Science in the place of Greek. The difference between the courses in the third year will be seen by consulting the following tables. The figures at the right indicate the number of recitations a week.

## CLASSICAL COURSE.

[For students who intend to become candidates for the degree A. B.]

## FIRST YEAR.

LATIN—Allen and Greenough's Grammar; Tetlow's Lessons . . . . .	5
MATHEMATICS—Olney's Complete Algebra . . . . .	5
ENGLISH . . . . .	2
HISTORY—Swinton's Outlines . . . . .	3

## SECOND YEAR.

LATIN—Kelsey's Cæsar . . . . .	5
Allen's Prose Composition . . . . .	2
MATHEMATICS—Todhunter's Algebra . . . . .	1
GREEK—Goodwin's Grammar, Anabasis . . . . .	5
HISTORY—Gardiner's English History . . . . .	2

## THIRD YEAR.

## FIRST TERM.

LATIN—Greenough's Virgil . . . . .	3
GREEK—Prose Composition, Anabasis . . . . .	4
MATHEMATICS—Chauvenet's Geometry . . . . .	3
GERMAN—Whitney's German Grammar and Reader, . . . . .	5

## SECOND TERM.

LATIN—Greenough's Virgil . . . . .	3
MATHEMATICS—Chauvenet's Geometry . . . . .	4
GREEK—Iliad . . . . .	3
GERMAN—Whitney's German Grammar and Reader . . . . .	5

## THIRD TERM.

LATIN—Greenough's Virgil . . . . .	4
MATHEMATICS—Chauvenet's Geometry . . . . .	3
GREEK—Iliad . . . . .	3
GERMAN—Whitney's German Grammar and Reader . . . . .	5

## SCIENTIFIC COURSE.

[For students who intend to become candidates for the degrees Ph. B. and B. S.]

## FIRST YEAR.

LATIN—Allen and Greenough's Grammar; Teltow's Lessons . . . . .	5
MATHEMATICS—Olney's Complete Algebra . . . . .	5
ENGLISH— . . . . .	2
HISTORY—Swinton's Outlines of General History . . . . .	3

## SECOND YEAR.

LATIN—Kelsey's Cæsar . . . . .	5
Allen's Prose Composition or Science.. . . .	2
MATHEMATICS—Todhunter's Algebra . . . . .	1
HISTORY—Gardiner's English History . . . . .	2
SCIENCE—Physics . . . . .	5

## THIRD YEAR.

## FIRST TERM.

SCIENCE—Astronomy 4; Chemistry 3 . . . . .	7
MATHEMATICS—Chauvenet's Geometry . . . . .	3
GERMAN—Whitney's Grammar and Reader . . . . .	5
*LATIN—Greenough's Virgil . . . . .	3

## SECOND TERM.

SCIENCE—Astronomy and Botany 3; Chemistry 3 . . . . .	6
MATHEMATICS—Chauvenet's Geometry . . . . .	4
GERMAN—Whitney's Grammar and Reader . . . . .	5
LATIN—Greenough's Virgil . . . . .	3

## THIRD TERM.

SCIENCE—Botany 3; Chemistry 4 . . . . .	7
MATHEMATICS—Chauvenet's Geometry . . . . .	3
GERMAN—Whitney's Grammar and Reader . . . . .	5
LATIN—Greenough's Virgil. . . . .	4

\*Student's fitting for courses leading to the degree B. S. do not take Latin in the third year; those fitting for courses leading to the degree Ph. B. take Latin in the place of Chemistry. The branches of Science in this course may be changed at the option of the instructor.

Supplementary to both Courses some readings in English are recommended, and rhetorical exercises are required.

*First Year*—Hawthorne, Selected Tales ; Shakspeare, Merchant of Venice ; Bunyan, Pilgrims Progress.

*Second Year*—Webster, Speeches ; Addison, Selections from Spectator ; Shakspeare, Julius Cæsar.

*Third Year*—Bacon, Essays ; Shakspeare, Hamlet ; Irving, Sketch book.

### CHOICE OF COURSE.

Students who are candidates for graduation will take one of the regular courses, and may take such additional work as they desire and, in the opinion of the Faculty, are capable of pursuing.

But all students of whatever class, after entering upon work in accordance with the prescribed regulations, will be subject to the following provisions :—

No student will be permitted to change or vary his course until the close of the school year, except for one of the following reasons :

1. Physical or mental disability.
2. Ability to perform additional work.

All applications for changing or varying the course must be made in writing, and addressed to the President of the Faculty, and must allege one of the foregoing reasons. If the first reason is alleged, the student will be directed to discontinue such work, *both in kind and amount*, and for such time as the Faculty shall deem proper. If the second reason is alleged, the student's work will be increased if his standing in class justifies it. The Faculty reserves the right to increase or lessen any student's work at any time.



## CERTIFICATE OF THE PREPARATORY SCHOOL.

Certificates will be given to students who complete any one of the courses of study.

Candidates for degrees are admitted to the University on a certificate of graduation from the Preparatory School.

## REGULATIONS.

Students who enter the school must register at the office. A student who withdraws without obtaining the written consent of his instructors is dropped from the roll, and can be readmitted only by vote of the regents.

All students are required to assemble in the auditorium Monday mornings.

Students neglecting any recitation or absenting themselves without good excuse are suspended from the privileges of the school.

A record is kept of the rank and attendance of each student, and an abstract is sent to the parent or guardian once a month.



# Catalogue of Students.



DEPARTMENT  
—OF—  
PHILOSOPHY AND THE ARTS.

NAME.	RESIDENCE.
CHASE, FREDERICK LINCOLN, A. B., University of Colorado, 1886.	<i>Boulder.</i>
CULVER, ANNIE ELIZABETH,	<i>Boulder.</i>
DUNCAN, GUY DALE,	<i>Longmont.</i>
EARHART, MINNIE,	<i>Boulder.</i>
HOUSEL, WILLIAM CEPHAS,	<i>Valmont.</i>
JOHNSON, MARY BALL,	<i>Boulder.</i>
LYCAN, CORA EMMA,	<i>Boulder.</i>
MASON, EDWARD COOK,	<i>Boulder.</i>
PERSONS, SILAS EDWARD, A. B., Hamilton College, 1881.	<i>Boulder.</i>
PIERCE, CHARLES HERBERT	<i>Boulder.</i>
SAMSON, SAMUEL MILTON,	<i>Boulder.</i>

SEWALL, CARRIE LUCINDA,

*Boulder.*

SEWALL, JENNIE.

*Boulder.*

STERNBERG, EMMA LORENA,

*Boulder.*

STERNBERG, LAMBERT,

*Boulder.*

TETERS, WILBERTINE NESSLERHODE,

*Boulder.*

THOMPSON, ELIZABETH BALLARD,

*Boulder*

THOMPSON, GUY VAN GORDER,

*Boulder.*



# PREPARATORY SCHOOL.

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## SENIORS.

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NAME.	RESIDENCE.
ANDREWS, ERNEST,	<i>Boulder.</i>
CARPENTER, ELLA BELLE,	<i>Boulder.</i>
COFFIN, GENEVA,	<i>Longmont.</i>
HALL, HORACE CHARLES,	<i>Boulder.</i>
INGRAM, EDITH EDNA,	<i>Boulder.</i>
MILLER, CHARLES FERDINAND,	<i>Boulder.</i>
PEABODY, LEILA ROSE,	<i>Boulder.</i>
SHELDON, CORA ESTHER,	<i>Boulder.</i>
STANTON, LEWIS HARPER,	<i>Boulder.</i>
STERNBERG, GUY,	<i>Boulder.</i>
TYLER, FRED,	<i>Boulder.</i>
WHITLEY, HORTENSE,	<i>Boulder.</i>
WISE, LILLIAN RACHEL,	<i>Boulder.</i>

## MIDDLELERS.

NAME.	RESIDENCE.
ADAMS, WINNIFRED,	<i>Boulder.</i>
ALBERTSON, MARY,	<i>Boulder.</i>
BAILEY, ANNA BELL,	<i>Boulder.</i>
BARRY, MILDRED,	<i>Boulder.</i>
BURGER, CHARLES ROLAND,	<i>Boulder.</i>
CARPENTER, CHARLES WHITFIELD,	<i>Boulder.</i>
COPELAND, ROYAL TIMOTHY,	<i>Boulder.</i>
ESTES, EDWIN,	<i>Longmont.</i>
GALLUP, EDWARD PALMER,	<i>Boulder Canon.</i>
HARVEY, LOUISE,	<i>Boulder.</i>
HOLZMAN, SARAH.	<i>Las Vegas, New Mexico.</i>
JOHNSON, GEORGE STERLING	<i>Missouri.</i>
JOHNSON, MADGE MOUNTJOY,	<i>Boulder.</i>
PORTER, LESTON LEON,	<i>Silver Cliff.</i>

ROWLAND, GEORGINA,	<i>Boulder.</i>
SAWYER, FANNIE,	<i>Boulder.</i>
SEWALL, STEPHEN,	<i>Boulder.</i>
SMITH, PATTIE LEE,	<i>Sterling.</i>
TETERS, LULU ELLA,	<i>Boulder.</i>
WOY, LEOTA,	<i>Boulder.</i>

## JUNIORS.

NAME.	RESIDENCE.
ANDREWS, CURTIS IRVING,	<i>Boulder.</i>
ANDREWS, SUSIE MAY,	<i>Boulder.</i>
BAILEY, EMERY H.,	<i>Greeley.</i>
BERGER, HATTIE,	<i>Boulder.</i>
BRALEY, NETTIE,	<i>Boulder.</i>
BROWN, MARY ESTELLA,	<i>Pueblo.</i>
BURGER, FRED WILLIAM,	<i>Boulder.</i>
CHEAIRS, MINNIE LOVE,	<i>Sterling.</i>
COLE, ALVERADO BROWN,	<i>Denver.</i>
DUNCAN, JAMES DELL,	<i>Longmont.</i>
DURWARD, ALEXANDER,	<i>Valmont.</i>
DURWARD, ARTHUR,	<i>Valmont.</i>
DURWARD, MARGARET ELIZABETH,	<i>Valmont.</i>
EARHART, NANNIE,	<i>Boulder.</i>

FERGUSON, RENA,	<i>Boulder.</i>
FRY, CILICIA MAY,	<i>Boulder</i>
GIGGY, GRACE L.,	<i>Boulder.</i>
GREEN, HATTIE ELMA,	<i>Boulder.</i>
HAZZARD, EMMA,	<i>Brighton.</i>
HOUSEL, JAMES ROBERT,	<i>Valmont.</i>
INGRAM, EDWIN JOHN,	<i>Boulder.</i>
KELLEY, OTELIA,	<i>Boulder.</i>
KEMP, ELIZABETH EMMA,	<i>Pueblo.</i>
KILLIN, ALICE,	<i>Pueblo.</i>
MAXWELL, MABEL ORRIELI,	<i>Boulder.</i>
MAXWELL, HELEN FRANK,	<i>Boulder.</i>
McFERREREN, LULU LORENA,	<i>Boulder.</i>
MULFORD, MAGGIE JAQUETTE,	<i>Boulder.</i>
NILES, FREEDIS STELLA,	<i>Boulder.</i>
NORTH, PAUL MCCOY,	<i>Boulder.</i>
PERKINS, ELIZABETH MATTIE,	<i>Sterling.</i>
RAINEY, ANNA,	<i>Pueblo.</i>

RUST, MELVIN MAXWELL,	<i>Boulder.</i>
RUST, NELLIE,	<i>Boulder.</i>
SAFELY, GRANT,	<i>Boulder.</i>
SALE, GEORGE PIERCE,	<i>Boulder.</i>
SCHRIVER, GERTRUDE MAY,	<i>Boulder.</i>
SNELL, EDITH ANNIE,	<i>Boulder.</i>
SQUIRES, FREDERICK EDSON,	<i>Boulder.</i>
STANTON, CHARLES EDWARD,	<i>Boulder.</i>
THOMPSON, ADDIE LOUISE,	<i>Boulder.</i>
TILNEY, MERRITT WELTON,	<i>Boulder.</i>
TOURTELOT, MARIA,	<i>Boulder.</i>
VAN DEREN, HELEN,	<i>Boulder.</i>
WHITELEY, LENA AGAR,	<i>Boulder.</i>



# Medical Department.

Session of 1887-8.

# FACULTY.

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HORACE M. HALE, A. M., PRESIDENT,  
BOULDER.

JAMES H. KIMBALL, M. D., SECRETARY.  
DENVER.

*Principles and Practice of Medicine, Materia Medica and Therapeutics.*

H. W. McLAUTHLIN, M. D.,  
DENVER.  
*Obstetrics and Diseases of Women and Children.*

GEORGE CLEARY, M. D.,  
DENVER.  
*Surgery, Ophthalmology and Otology.*

L. M. GIFFIN, M. D.,  
BOULDER.  
*Anatomy and Physiology.*

CHARLES S. PALMER, Ph. D.,  
BOULDER.  
*Chemistry.*

R. N. MAYFIELD, M. D.,  
BOULDER.  
*Pathology and Hygiene.*

JUDGE J. M. NORTH,  
BOULDER.  
*Medical Jurisprudence.*

G. B. BLAKE, M. D.,  
BOULDER.  
*Demonstrator of Anatomy.*

## ANNOUNCEMENT.

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The people of Colorado have ever shown a ready appreciation of the advantages of public education. The State is largely settled by intelligent and educated persons from all parts of the United States, and from nearly every part of the civilized world. The vigorous growth and rapid development of Colorado are not more remarkable than the excellence and extent of its admirable public school system. The University of Colorado forms a part of the public educational system of the State, and in accordance with the law of the State aims to complete the work of the public schools by offering to all persons of either sex, who are qualified for admission, a liberal education in the Arts, the Sciences and Literature, *without charge for tuition.*

The object of the establishment of this Department is to secure a good medical education for those who may in the future be entrusted with the lives and with the health of our citizens. The Regents believe that the lives and health of the people of Colorado are not second in importance to any other interest that can be subserved by the State University. The Medical Department aims to emulate the best schools, but chooses to establish its own standard. The State of Colorado, through this Department of its University, offers no inducement of easy graduation, but proposes to serve the best interest of the citizens of the State.

The University of Colorado, with its different Departments, is established by the Constitution of the State at the beautiful little city of Boulder, which contains a population

of nearly five thousand inhabitants, picturesquely situated at the mouth of Boulder Cañon, only thirty miles distant from Denver, and easily accessible by rail from all parts of the State.

Persons suffering from pulmonary or malarial diseases are particularly benefited by a residence in Colorado, and many who had been compelled to relinquish their studies in the East or South have been able here to pursue them without interruption.

The session commences on the 5th day of September, 1887, and ends on the 29th day of May, 1888.

The holiday vacation commences on the 17th day of December, 1887, and ends on the 1st day of January, 1888.

There is a recess of one week commencing on the 24th day of March, 1888.

## REQUIREMENTS FOR ADMISSION.

All students entering the College will be required to pass a satisfactory examination in the branches of a good English education. Students who present a diploma or certificate of graduation from a literary or scientific college, or a high school, shall be exempt from this preliminary examination.

## SEXES.

By the provision of the law for the government of the University, both sexes are received upon equal terms.

## REQUIREMENTS FOR GRADUATION.

I. The candidate must be of good moral character, and have attained the age of twenty-one years.

II. He must present evidence of having studied medicine for at least three years under the direction of a

regular graduate or practitioner of medicine of good standing, including the time spent upon lectures, and must have spent at least one continuous year at this school.

III. He must write a thesis on a medical subject and present it to the Secretary at least one month before the close of the session.

IV. He must pass the required examinations before the Faculty.

### FEEES.

Matriculation fee, five dollars. Graduation and diploma fee, ten dollars. Tuition free.

Students so desiring may obtain board and rooms on the University grounds. For particulars see table of fees and expenses in the General Statement, page 12.

### COURSE OF STUDY.

The course of study consists of a graded course of three years of nine months each year.

In this course the studies are so arranged that they shall be pursued in the following order:

*First Year.*—Anatomy and Dissection, Chemistry, Physiology, Histology, Materia Medica, Therapeutics and Botany.

*Second Year.*—Anatomy and Dissection, Chemistry, Physiology, Histology, Materia Medica and Therapeutics, Pathology, Practice of Medicine, Surgery and Obstetrics.

*Third Year.*—Practice of Medicine, Surgery, Obstetrics, Diseases of Women, Diseases of Children, Ophthalmology, Otology, Clinical Medicine and Surgery, Clinical Gynecology, Hygiene and Public Health, and Medical Jurisprudence.

## COURSE OF INSTRUCTION.

The course of instruction extends over a term of three years, with a nine-months' session in each year. It is intended that the student shall have ample time to master each subject; and especially is it designed that the fundamental branches, such as anatomy, chemistry, materia medica and physiology, shall be understood before burdening the mind with the more advanced studies of the course.

Oral examinations upon the previous instruction given upon the subject, will precede each lecture and clinic. These examinations will be taken into account in determining the standing of the student at graduation.

## SCHEDULE FOR 1887-88.

*Anatomy*—Three times a week.

*Practical Anatomy with Exercises in Dissection*—Four times a week.

*Physiology*—Twice a week.

*General and Analytical Chemistry*—Once a week.

*Medical and Toxicological Chemistry*—Once a week.

*Practical Exercises in the Chemical Laboratory.*

*Materia Medica and Therapeutics*—Twice a week.

*Pathology and Hygiene*—Twice a week.

*Surgery*—Twice a week.

*Ophthalmology and Otology*—Once a week.

*Obstetrics and Diseases of Children*—Three times a week.

*Gynecology*—Once a week.

*Principles and Practice of Medicine*—Twice a week.

*Medical Jurisprudence*—Ten lectures.



## LABORATORIES AND LIBRARY.

The Chemical and Physical laboratories and apparatus are complete and furnished with all the modern appliances.

The University Library is open to medical students.

## PRACTICAL ANATOMY.

Ample facilities will be afforded for the study of practical anatomy, and no charges will be made for anatomical material.

## HOSPITAL AND CLINICAL INSTRUCTION.

A well arranged and commodious hospital, established on the University grounds, and under the charge of the Medical Faculty, is open to patients resorting thither for treatment.

Clinical instruction will form a prominent feature of the course. The customary medical and surgical clinics will be held at the hospital. The bedside instruction will be thorough, under the guidance of the teachers. Each student as he advances will be afforded ample opportunities.

In this way it is expected that by the time the student becomes a graduate, he will have such a fund of practical, as well as theoretical, knowledge, that when cast upon his own resources he will be able to successfully perform the duties of the profession.

## LIST OF TEXT AND REFERENCE BOOKS.

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*Botany*—Sachs, Gray, Bessey.

*Chemistry*—Bloxam, Roscoe, Appleton.

*Anatomy*—Gray, Heath.

*Physiology*—Dalton, Foster, Flint, Yeo's Manual.

*Materia Medica*—H. C. Wood, Biddle.

*Medicine*—Flint, Bartholow, Palmer, Loomis.

*Obstetrics*—Playfair, Cazeaux, Leishman, Lusk.

*Diseases of Women*—Thomas, Byford, Goodell, Tilt.

*Diseases of Children*—Smith, Meigs and Pepper, Ellis.

*Diseases of the Eye*—Williams, Wells, Carter.

*Diseases of the Ear*—Turnbull, Burnett, Roosa.

*Histology*—Cornil and Ranvier, Satterthwaite.

*Pathology*—Billroth, Coates, Woodhead.

*Medical Jurisprudence*—Taylor, Wormley, Stille.

*Hygiene and Public Health*—Buck.

*Microscopy*—Frey, Beale.

*For Reference*—Dunglison's Dictionary, United States and  
National Dispensatories.

## GRADUATES.

- 
- H. E. STROUD, Colorado, 1885.  
H. C. EVANS, New Jersey, 1885.  
G. B. BLAKE, Louisiana, 1886.  
H. I. BRAGDON, Colorado, 1886.  
J. CAMPBELL, Colorado, 1887.
- 

## STUDENTS.

---

SESSION OF 1886-7.

- |               |                |
|---------------|----------------|
| J. CAMPBELL.  | J. R. HALE.    |
| C. M. FONDA.  | J. ROWLAND.    |
| E. H. BAYLEY. | J. E. BENNETT. |
| E. FERGUSON.  |                |

SUMMARY.

---

DEPARTMENT OF PHILOSOPHY AND THE ARTS . . . .	18
PREPARATORY SCHOOL:	
SENIORS . . . . .	13
MIDDLERS . . . . .	20
JUNIORS . . . . .	45— 78
TOTAL . . . . .	96

## DEGREES CONFERRED.

---

1882.

HENRY ALEXANDER DRUMM, A. B.

OSCAR EUGENE JACKSON, A. B.

JAMES IRWIN MCFARLAND, A. B.

JOHN JULIAN MELLETTE, A. B.

HAROLD DAVIS THOMPSON, A. B.

RICHARD HENRY WHITELEY, JR., A. B, A. M. 1887.

1883.

ERNEST MONDELL PEASE, A. B., A. M. 1885.

TIMOTHY WILLIAM STANTON, B. S.

1884.

BENJAMIN LOUIS HOLSTEIN, B. S.

1885.

HENRY CARTER EVANS, M. D.

HARRISON EDWARD STROUD, M. D.

1886.

GUSTAVE BEAUREGARD BLAKE, M. D.

HOLLIS ILLSEY BRAGDON, M. D.

FREDERICK LINCOLN CHASE, A. B.

VICTOR IRWIN NOXON, B. S.

CLARENCE HARLOW PEASE, B. S.

JUDSON ROWLAND, B. L.

HELEN FLORENCE TYLER, A. B.

EDWARD CORNING WOLCOTT, A. B.

1887.

JACOB CAMPBELL, M. D.

SILAS EDWARD PERSONS, A. M. (A. B., Hamilton College, '81.)

CHARLES HUBERT PIERCE, A. B.

JENNIE SEWELL, A. B.



## GRADUATES FROM NORMAL SCHOOL.

---

JAMES ERNEST ANDREWS, 1887.

LILLIAN BUTTERS, 1880.

MARY PORTER, 1881.

CYNTHIA WESTOVER, 1880.

---

## GRADUATES FROM THE PREPARATORY SCHOOL.

---

1878.

THURSTON AIKENS,  
GUSTAVUS A. CAGE,  
HENRY A. DRUMM,  
OSCAR JACKSON,  
JAMES IRWIN MCFARLAND,  
JOHN JULIAN MELLETTE,  
LILLIAN EMMA TYLER,  
MONTFORD SCHLEY WHITELEY,  
RICHARD HENRY WHITELEY, JR.

1879.

NELLIE F. BARKER,  
CHARLES B. GALLUP,  
ERNEST M. PEASE,  
TIMOTHY W. STANTON,  
HELEN FLORENCE TYLER.

1880.

HELEN BEARDSLEY,  
CLARA BUTTLES,  
ALBERT J. GOODELL,  
BENJAMIN HOLSTEIN,  
FRANK C. LORING,  
FANNIE MCLEOD,  
BURT TYLER.

1881.

ROBERT L. CULVER,  
EVERETT N. PICKEL,  
JUDSON ROWLAND,  
EDWARD C. WOLCOTT.

1882.

JOSEPHINE BERKLEY,  
MARY VAN VALKENBURG,  
FRED. LINCOLN CHASE,  
CLARENCE PEASE,  
WILLIAM J. THOMAS.

## 1883.

LILLIAN F. BEAN,  
 NEWTON D. ESTES.

## 1884.

MARY BALL JOHNSON.  
 EDWARD COOK MASON,  
 VICTOR IRWIN NOXON,  
 CHARLES HENRY PIERCE,  
 JENNIE SEWALL,  
 CATHERINE WISE.

## 1885.

GEORGE MCCLELLAND CULVER,  
 GUY DALE DUNCAN,  
 CARRIE SEWALL,  
 LAMBERT STEINBERG,  
 LOMIE LOUISE WASHBURNE.

## 1886.

CATHERINE DORR,  
     Latin-Scientific.  
 CORA EMMA LYCAN,  
     Latin-Scientific.  
 SAMUEL MILTON SAMSON,  
     Latin-Scientific.  
 EMMA LORENA STERNBERG,  
     Latin-Scientific.  
 ELIZABETH BALLARD THOMP-  
     SON,              Latin-Scientific.

## 1887.

JAMES ERNEST ANDREWS,  
     Classical.  
 ELLA BELLE CARPENTER,  
     Scientific.  
 GENEVA COFFIN,        Scientific.  
 ANNIE ELIZABETH CULVER,  
     Scientific.  
 HORACE CHARLES HALL,  
     Classical.  
 EDITH EDNA INGRAM, Scientific.  
 CHARLES FERDINAND MILLER,  
     Classical.  
 LEILA ROSE PEABODY, Scientific.  
 CORA ESTHER SHELDON,  
     Classical.  
 LEWIS HARPER STANTON,  
     Scientific.  
 GUY STERNBERG,        Classical.  
 WILBERTINE NESSLERHODE TE-  
     TERS,              Scientific.  
 HORTENSE WHITELY, Scientific.  
 LILLIAN RACHEL WISE,  
     Scientific.

# TENTH ANNIVERSARY.

TUESDAY, MAY 31, 1887.

---

*Candidates for Degree of Master of Arts.*

SILAS EDWARD PERSONS,  
B. A., Hamilton College, 1881.  
RICHARD HENRY WHITELEY, JR.,  
B. A., University of Colorado, 1882.

---

*Candidates for Degree of Bachelor of Arts.*

CHARLES HERBERT PIERCE,  
JENNIE SEWALL.

---

*Candidate for Degree of Doctor in Medicine.*

JACOB CAMPBELL.

---

*Candidate for Diploma of the Normal School.*

JAMES ERNEST ANDREWS.

---

*Class of '87, Preparatory School.*

JAMES ERNEST ANDREWS,	-	-	Classical Course.
ELLA BELLE CARPENTER,	-	-	Scientific “
GENEVA COFFIN,	-	-	Scientific “
ANNIE ELIZABETH CULVER,	-	-	Scientific “
HORACE CHARLES HALL,	-	-	Classical “
EDITH EDNA INGRAM,	-	-	Scientific “
CHARLES FERDINAND MILLER,	-	-	Classical “
LEILA ROSE PEABODY,	-	-	Scientific “
CORA ESTHER SHELDON,	-	-	Classical “
LEWIS HARPER STANTON,	-	-	Scientific “
GUY STERNBERG,	-	-	Classical “
WILBERTINE NESSLERHODE TETERS,	-	-	Scientific “
HORTENSE WHITELEY,	-	-	Scientific “
LILLIAN RACHEL WISE,	-	-	Scientific “



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# CATALOGUE

PLEASE EXCHANGE.

OF THE

# UNIVERSITY OF COLORADO,

BOULDER, COLORADO,

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SEPT. 1887—JUNE, 1888.

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DENVER, COLO.  
THE TIMES PRINTING COMPANY,  
1888.

# CALENDAR.

1888.								1888.								1889.							
MAY.								NOVEMBER.								MAY.							
S	M	T	W	T	F	S		S	M	T	W	T	F	S		S	M	T	W	T	F	S	
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6	7	8	9	10	11	12		4	5	6	7	8	9	10		5	6	7	8	9	10	11	
13	14	15	16	17	18	19		11	12	13	14	15	16	17		12	13	14	15	16	17	18	
20	21	22	23	24	25	26		18	19	20	21	22	23	24		19	20	21	22	23	24	25	
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17	18	19	20	21	22	23		16	17	18	19	20	21	22		16	17	18	19	20	21	22	
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15	16	17	18	19	20	21		13	14	15	16	17	18	19		14	15	16	17	18	19	20	
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12	13	14	15	16	17	18		10	11	12	13	14	15	16		11	12	13	14	15	16	17	
19	20	21	22	23	24	25		17	18	19	20	21	22	23		18	19	20	21	22	23	24	
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9	10	11	12	13	14	15		10	11	12	13	14	15	16		15	16	17	18	19	20	21	
16	17	18	19	20	21	22		17	18	19	20	21	22	23		22	23	24	25	26	27	28	
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7	8	9	10	11	12	13		7	8	9	10	11	12	13		6	7	8	9	10	11	12	
14	15	16	17	18	19	20		14	15	16	17	18	19	20		13	14	15	16	17	18	19	
21	22	23	24	25	26	27		21	22	23	24	25	26	27		20	21	22	23	24	25	26	
28	29	30	31	.	.	.		28	29	30	.	.	.	.		27	28	29	30	31	.	.	

## ANNOUNCEMENTS.

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COMMENCEMENT . . . . .	May 29, 1888.
EXAMINATION FOR ADMISSION . . .	May 26; Sept. 4, 1888.
FIRST SEMESTER BEGINS . . . . .	Sept. 5, 1888.
WINTER RECESS BEGINS . . . . .	Dec. 22, 1888.
EXERCISES RESUMED . . . . .	Jan. 7, 1889.
FIRST SEMESTER CLOSSES . . . . .	Jan. 25, 1889.
SECOND SEMESTER BEGINS . . . . .	Jan. 28, 1889.
SPRING RECESS BEGINS . . . . .	March 23, 1889.
EXERCISES RESUMED . . . . .	April 1, 1889.
COMMENCEMENT . . . . .	May 28, 1889.
EXAMINATIONS FOR ADMISSION . . .	May 25, Sept. 3, 1889.
FIRST SEMESTER BEGINS . . . . .	Sept. 4, 1889.

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## PREPARATORY AND NORMAL SCHOOLS.

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SECOND TERM CLOSSES . . . . .	March 23, 1888.
THIRD TERM BEGINS . . . . .	April 2, 1888.
THIRD TERM CLOSSES . . . . .	May 29, 1888.
EXAMINATIONS FOR ADMISSION . . .	May 26, Sept. 4, 1888.
FIRST TERM BEGINS . . . . .	Sept. 5, 1888.
FIRST TERM CLOSSES . . . . .	Jan. 25, 1889.
SECOND TERM BEGINS . . . . .	Jan. 28, 1889.
SECOND TERM CLOSSES . . . . .	May 28, 1889.
EXAMINATIONS FOR ADMISSION .	May 25, Sept. 3, 1889.
FIRST TERM BEGINS . . . . .	Sept 4, 1889.

Examinations will begin at 8:15, a. m.

## BOARD OF REGENTS.

---

S. A. GIFFIN, B. A.,	<i>Boulder,</i>	Term expires, 1888.
LEONIDAS S. CORNELL,	<i>Denver,</i>	Term expires, 1888.
ROGER W. WOODBURY,	<i>Denver,</i>	Term expires, 1890.
DANIEL E. NEWCOMB,	<i>La Jara,</i>	Term expires, 1890.
E. J. TEMPLE,	<i>Boulder,</i>	Term expires, 1892.
WOLFE LONDONER,	<i>Denver,</i>	Term expires, 1892.

## OFFICERS OF THE BOARD.

---

HORACE M. HALF.	--	--	--	President.
S. A. GIFFIN,	--	--	--	Secretary.
C. G. BUCKINGHAM,	--	--	--	Treasurer.



## FACULTY AND INSRUCTORS.

---

HORACE M. HALE, A. M.,

*President.*

I. C. DENNETT, A. M.,

*Professor of Latin.*

MARY RIPPON,

*Professor of German and French.*

J. RAYMOND BRACKETT, Ph. D. (Yale),

*Professor of English Literature and Greek.*

JAMES H. KIMBALL, M. D.,

*Professor of Principles and Practice of Medicine, Materia  
Medica, and Therapeutics.*

H. W. McLAUTHLIN, M. D.,

*Professor of Obstetrics and Diseases of Women and Children.*

GEORGE CLEARY, M. D.,

*Professor of Surgery, Ophthalmology, and Otology.*

W. J. WAGGENER, A. M.,

*Professor of Physics.*

L. M. GIFFIN, M. D.,  
*Professor of Anatomy and Physiology.*

W. W. CAMPBELL, B. S. (C. E.),  
*Professor of Mathematics.*

CHARLES S. PALMER, Ph. D. (Johns Hopkins),  
*Professor of Chemistry.*

R. N. MAYFIELD, M. D.,  
*Lecturer on Pathology and Hygiene.*

J. M. NORTH, A. M., LL. B.,  
BOULDER,  
*Lecturer on Medical Jurisprudence.*

G. B. BLAKE, M. D.,  
BOULDER,  
*Demonstrator of Anatomy.*

*Professor of Political Economy and History.*

GUY V. THOMPSON,  
*Tutor.*

## GENERAL STATEMENT.

---

The Constitution of the State of Colorado provides for the election of a Board of Regents of the University and defines its duties, as follows: "*The Board of Regents shall have the general supervision of the University, and the exclusive control and directory of all funds of, and appropriations to, the University.*" The President of the University is *ex officio* a member of the Board of Regents and its presiding officer. The organic act, establishing the University and providing for its maintenance, was passed by the General Assembly of Colorado, March 15, 1877. Its object, as defined by that act, is "*to provide the best and most efficient means of imparting to young men and women, on equal terms, a liberal education and thorough knowledge of the different branches of literature, the arts and sciences, with their varied applications.*"

## HISTORY.

The University of Colorado was incorporated by an act of the Territorial Legislature of 1860, and the location fixed at Boulder. In 1871, three public-spirited citizens donated to the University fifty-two acres of land adjoining the city, valued at \$5,000. In 1874, the Territorial Legislature appropriated \$15,000, and the citizens of Boulder contributed a like sum in cash. In 1875, Congress set apart and reserved seventy-two sections of the public lands

for the support of the State University. In 1876, the Constitution of Colorado provided that upon its adoption the University at Boulder should become an institution of the State, thus entitling it to the lands appropriated by Congress, and further made provisions for the management and control of the University. The first General Assembly of the State made provision for its permanent support by a levy of a tax of one-fifth of a mill upon the property of the State; also for a fund to be secured by the sale of lands donated by the United States.

The Institution was opened September, 1877, with two teachers and forty-four pupils.

In 1878, the General Assembly appropriated \$7,000 for apparatus, furniture, etc. In 1883, the General Assembly provided a special fund by a tax levy of one-fifth of a mill for the year 1883 and 1884, yielding about \$40,000. This fund was expended for books, apparatus, furniture, additional buildings, and for the improvement of the grounds. The University is maintained by a tax levy of one-fifth of a mill on the assessed valuation of the property of the State.

### LOCATION.

The University has a beautiful situation upon the high grounds on the south side of Boulder Creek, and overlooks the city of Boulder. The scenery is not surpassed, if equaled, in the whole Rocky Mountain region. To the west are seen the boldest and highest foot-hills of the range, and far away the ever snow-capped summit of Arapahoe Peak. On the south, rise the beautiful *mesas* or table lands; while to the north and east, as far as the eye can reach, extend fertile plains, dotted with lakes, and in June, beautifully green with crops of cereals. The tourist may find in Boulder, South Boulder, and Bear Cañons, and on the road to Sunshine and Gold Hill, scenery as

grand, varied, and beautiful as any in the State, or even in Switzerland. The climate is all that could be desired, neither excessively warm in summer nor cold in winter. The close proximity of some of the richest mines of the State, and the extensive reduction works where the crude ore is treated, afford students of chemistry and metallurgy rare opportunities for obtaining a practical knowledge of these sciences. The mountain peaks, cañons, mesas, and plains, afford rare opportunities for the study of geology, crystallography, and glacial action.

### BUILDINGS.

The corner-stone of the main structure was laid September 20, 1875; the building is about sixty feet by one hundred, and cost forty-five thousand dollars. The basement contains the physical laboratory, janitor's quarters, and two society rooms; on the first floor are three recitation rooms, the offices, and a fine auditorium; the library is on the second floor, and the chemical laboratory on the third.

Besides the main building, there are two cottages, the president's house and a hospital. All these buildings are of brick. The students' cottages offer neat and healthful accommodations at very low rates.

### CABINET.

The cabinet contains a valuable collection of minerals and specimens to illustrate the geology, natural history, and botany of the Northwest. The Herbarium contains over seven hundred specimens from Colorado, and has been arranged with great care in accordance with Gray's Manual of Botany. A collection of corals and shells, and a collection of fossils and rocks, illustrating the geology of Colorado, have recently been added.



The collection of minerals, donated by J. Alden Smith, State Geologist, is composed of specimens both from abroad and from the State. These collections are being added to from time to time, and all friends of the University are respectfully solicited to contribute such specimens as their judgment and generosity may dictate.

### CHEMICAL LABORATORY.

No course in science deserves consideration, which does not involve careful personal experimentation on the part of the student. The chemical laboratory with its apparatus and re-agents, offers opportunity for the individual student to perform the essential and fundamental experiments, and thus enables each one to become acquainted with the manipulations and phenomena, for himself.

The suite of rooms devoted to chemical work includes a lecture-room, a laboratory proper, a store-room for supplies, and a weighing room containing the delicate scales and balances used in analysis and assaying. The stock of chemicals and apparatus is sufficient to give illustration and discipline in elementary and general chemistry, in qualitative and elementary quantitative analysis, and provision is now being made for materials suitable for organic chemistry. The laboratory is provided with furnaces and apparatus for assay work, and a course in assaying will be offered as circumstances shall dictate, but no attempt will be made to develop this branch of work beyond its natural limits in a course particularly devoted to pure science, and no student will be permitted to take even this who has not already mastered the essentials of chemistry.

### LABORATORY OF MINERALOGY AND PETROGRAPHY.

In connection with the facilities offered by the chemical laboratory, and the collections in mineralogy and



geology, special instruction will be given in both the macroscopical and microscopical examination of minerals and rocks. A fine set of wooden crystal models (imported) and a petrographical microscope have been procured for this department, and goniometers, rock-sections, etc., will shortly be provided, so that there will be given such practical training in these lines as the times demand. Moreover, the region is particularly rich in material illustrative of both the old and the new geology.

### PHYSICAL LABORATORY AND COURSES IN PHYSICS.

During the past year extensive additions were made in the apparatus of the physical laboratory; and further additions to the same will be made during the current year.

Every student taking any of the courses in Physics is required, individually, to perform, in the laboratory, a large number of experiments, both qualitative and quantitative; such work occupying from one-third to one-half of the whole time devoted to this branch.

These courses are so arranged as at once to provide the general training in Physics, that is required in a liberal education, and to lay the proper and necessary foundation for subsequent work in the other sciences. With both of these purposes in view, a special course in Optics has been added, and large provision made for its experimental illustration. A special course in Electricity is also offered, which will likewise be thoroughly provided with working apparatus.

### LIBRARY AND READING ROOM.

The Library was founded by C. G. Buckingham, of Boulder. The Regents have appropriated \$1,000 for additions to the library during the present year; this sum has been increased to \$1,200 by the liberality of Mr. Bucking-

ham. The Library contains 3,000 volumes exclusive of pamphlets and government reports. The Librarian, or an assistant, is in attendance during library hours to render such aid in the selection of books as may be desired.

The reading room is supported in part by an annual fee of one dollar that is collected from students in all departments, and in part by the matriculation fees, which have been devoted to this use by the Regents.

The following is a list of the periodicals ordered for 1888:

North American Review,	Fliegende Blaetter,
Contemporary Review,	Revue des Deux Mondes,
Fortnightly Review,	L'Art,
Edinburgh Review,	Journal of Philology,
Quarterly Review,	American Journal of Philology
Westminster Review,	Anglia,
Blackwood's Magazine,	Englische Studien,
Nineteenth Century,	Journal of Speculative Philos-
New Princeton Review,	ophy,
Scottish Review,	Quarterly Journal of Econo-
Shakespeariana,	mistes,
Andover Review,	Political Science Quarterly,
Atlantic Monthly,	Nature,
Harper's Monthly,	Science,
Scribner's Magazine,	American Journal of Science,
Century,	Popular Science Monthly,
Nation,	Comptes Rendus,
Education,	American Chemical Journal,
New England Journal of Ed-	London Chemical News,
ucation,	Journal London Chemical
New Englander,	Society,
Library Notes,	Journal de Physique,
Library Journal,	American Journal of Mathe-
Co-operative Index to Peri-	matics,
odicals,	Annals of Mathematics,

Forum,	Nouvelles Annales de Math-
Literary News,	ematiques,
Literary World,	Mathesis,
Deutsche Rundschau,	Journal fuer die Reine und
Internationale Zeitschrift fuer	Angewandte Mathematik,
Sprachwissenschaft.	Colorado Daily and Weekly
	Papers,

### LITERARY SOCIETIES.

The Philomathean Society is open to students of the Preparatory and Normal departments, and has become a valuable means of discipline and culture.

The Bell Literary Society has been organized by the students in the Department of Philosophy and the Arts ; its exercises, consisting of original essays, orations, and debates, are of such a nature as to awaken enthusiasm, and supplement the training of the class-room.

### CADET CORPS.

The University Cadet Corps is a volunteer organization managed entirely by its members, subject to the approval of the President.

The State furnishes the arms and accoutrements ; each cadet provides his uniform.

### RELIGIOUS EXERCISES.

Religious services are held in the chapel on four mornings of each week. They consist of singing, reading of the Scriptures, and the recital of the Lord's Prayer. Attendance upon these services is optional.

Branches of the Young Men's and the Young Women's Christian Associations are maintained by the students.

There are Baptist, Catholic, Christian, Congregational, Episcopal, Methodist, Presbyterian, Second Advent, and Unitarian churches in town.

## FEES AND EXPENSES.

There is no charge to residents of the State for tuition.

The fees and expenses are as follows:

A reading-room fee of one dollar per annum is collected from each student; a matriculation fee of five dollars for residents of the State, and ten dollars for non-residents; and an annual fee of fifteen dollars for non-residents.

These fees are payable in advance.

Students who pursue Laboratory courses of study are required to pay for the materials and apparatus actually consumed by them. The Laboratory expenses of students will vary with their prudence and economy.

In the Medical Department there is a fee of ten dollars for graduation and diploma.

Students obtain board and lodging in private families at four to six dollars a week. Room rent varies from one to two dollars a week for each student.

Students living in the cottages, erected on the campus, are subject to the following *fixed rates*:

Table board, fuel, lamp oil, unfurnished	
room, per week,        -        -        -	\$4.00
For unfurnished room, fuel, and lamp oil,	
per month,        -        -        -        -	3.50

Board must be paid in advance for each month.

There is no charge for the use of bath-rooms or laundry.

Two hundred dollars a year will pay all University bills and necessary expenses for board, fuel, lights, washing, books, and stationery.

Rooms will be assigned the first day of the fall term. Application may be made at any time. Storage will be provided for furniture during the summer vacation, free of charge.

The rooms are sufficiently large to accommodate two students each, and no one may claim the right to room alone. Occupants will be held responsible for all damage done to rooms while in their possession.

Facilities for obtaining furniture and supplies are abundant in Boulder, and the rates are reasonable.

## DEPARTMENTS.

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The departments of instruction in the UNIVERSITY OF COLORADO are comprehended under four divisions, as follows :

The Department of PHILOSOPHY AND THE ARTS.

\* The Department of MEDICINE.

The NORMAL SCHOOL.

The PREPARATORY SCHOOL.

The Department of PHILOSOPHY AND THE ARTS includes courses leading to the degrees of Bachelor of Arts, Bachelor of Philosophy, Bachelor of Science, and Bachelor of Letters.

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\* This Department will issue a separate catalogue in June.



DEPARTMENT

—OF—

PHILOSOPHY AND THE ARTS.

# FACULTY.

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HORACE M. HALE, A. M.,  
PRESIDENT,

I. C. DENNETT, A. M.

MARY RIPPON,

J. RAYMOND BRACKETT, Ph. D.

W. J. WAGGENER, A. M.

W. W. CAMPBELL, B. S. (C. E.)

C. S. PALMER, Ph. D.

## REQUIREMENTS FOR ADMISSION.

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Students are admitted to the courses leading to the Bachelor's degree, on the certificate of the Preparatory School, or upon a satisfactory examination.

An examination will be held sometime in June, by a member of the Faculty, in any town remote from the University, provided that the President shall have been informed that there are candidates desiring admission. Application for such examination should be made not later than May first. The time and place of holding such examination will be announced in the local papers.

Students who pass a satisfactory examination on seventy per cent. of the subjects required may enter conditioned on the remainder. Conditioned students will make up deficiencies by recitation in the Preparatory School of the University.

### I. CANDIDATES FOR THE DEGREE OF BACHELOR OF ARTS.

Candidates for courses leading to the degree of Bachelor of Arts will be examined in the following subjects :

1. LATIN.—Elements of Grammar ; Tetlow's Latin Lessons, or an equivalent ; the translation at sight of easy Latin prose ; the translation into Latin of simple English sentences suitable to those who have taken Jones's Composition ; Caesar, four books ; Cicero, four orations ; Virgil, six books of the *Æneid*.

2. GREEK.—White's First Lessons; Hadley's or Goodwin's Greek Grammar; Xenophon's Anabasis, three books; Iliad, two books, omitting the catalogue of ships; translation into Greek of simple sentences suitable to students who have taken Jones's Greek Prose Composition.

3. HISTORY AND GEOGRAPHY.—Outlines of General History; Roman History; the Geography connected with the study of Greek and Roman History, and the Greek and Latin authors read.

4. MATHEMATICS—ARITHMETIC.—Ficklin's Arithmetic, or an equivalent in other authors, including the Metric System of Weights and Measures.

ALGEBRA.—Olney's Complete School Algebra, or an equivalent in other authors.

GEOMETRY.—Chauvenet's Geometry, or an equivalent in other authors.

5. ENGLISH.—English Grammar and Analysis.

## II. CANDIDATES FOR THE DEGREE OF BACHELOR OF PHILOSOPHY.

Candidates for Courses leading to the degree of Bachelor of Philosophy will be examined on 1, 3, 4, 5, under I., and History of England. In place of Greek, the elements of Physics, the elements of Chemistry and one year's German.

## III. CANDIDATES FOR THE DEGREE OF BACHELOR OF SCIENCE.

Candidates for Courses leading to the degree of Bachelor of Science will be examined on the following subjects:

1. ENGLISH LANGUAGE, MATHEMATICS AND HISTORY.—The same as under II., excepting Roman History.

2. GERMAN.—Principles of German Grammar (Whitney's or Otto's preferred); translations from English into German, and sight translations from ordinary German into English.

3. LATIN.—Two years of Latin, including four books of Cæsar.

4. SCIENCE.—The elements of Physics and the elements of Chemistry; a full year's work is recommended in each.

#### IV. CANDIDATES FOR THE DEGREE OF BACHELOR OF LETTERS.

This examination is offered for students who come from schools where foreign languages are not taught.

Candidates for Courses leading to the degree of Bachelor of Letters will be received after passing a satisfactory examination in the following requirements:

A. ENGLISH.—1. Parsing. 2. Analysis. 3. Hart's Rhetoric, complete. 4. Kellogg's English Literature.

B. MATHEMATICS.—The same as under I.

C. HISTORY, GEOGRAPHY, ETC.—Outlines of General History; History of England; Civil Government; Houston's Physical Geography.

D. SCIENCE.—1. *Physiology*.—Hooker, Youman or Dalton.

2. *Physics*.—Elements of Natural Philosophy. (Gage.)

3. *Botany*.—First twenty-seven chapters of Gray's Lessons.

4. *Chemistry*.—The elements of Inorganic Chemistry.

Students who pass this examination will be received in all courses that can be pursued without a knowledge of Latin, Greek, French and German.

Candidates will be credited for advanced standing with any work in addition to the above on which they pass a satisfactory examination.

## COURSES OF STUDY.

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The various branches taught are offered to the student in *courses of study*. A *full course of study*, as here used, means five exercises a week throughout a semester. The student is required to complete twenty-four full courses in order to obtain the recommendation of the Faculty for a degree. Some are prescribed, but sufficient option is given for the student to direct his training in accordance with his inclination and adaptability.

Students who are candidates for a degree take the prescribed work and select, in addition, courses enough to make up the full amount of work required.

Special students, that is, those not candidates for a degree, select, with the approval of the Faculty, such work as they desire from the courses pursued at the time.

No student may take more than fifteen exercises a week, except by vote of the Faculty.

No student will be permitted to change his course, or drop any study, except by vote of the Faculty, and then only at the beginning of a semester.

All required courses will be given, but instructors may decline to give elective courses to less than five applicants. It is expected, however, that each student will have an opportunity to pursue any course before taking his degree.



# COURSES FOR THE BACHELOR'S DEGREE. LATIN.

COURSE.		
1.....	{ FIRST SEMESTER .....Livy; Roman History .....	Full Course.
	{ SECOND SEMESTER .....Horace, Roman Literature, Lyric Poetry .....	Full Course.
2.....	{ FIRST SEMESTER .....Cicero (De Senectute, De Immortalitate) ; Ancient Philosophy	Full Course.
	{ SECOND SEMESTER.....Tacitus (Germania et Agricola) ; Roman History.....	Full Course.
3.....	{ FIRST SEMESTER .....Juvenal ; Origin and Development of Ancient Satire.....	Three-fifths.
	{ SECOND SEMESTER.....Terence ; Drama.....	Two-fifths.
4.....	{ FIRST SEMESTER .....Latin Prose .....	Three-fifths.
	{ SECOND SEMESTER.....Cicero's Letters .....	Two-fifths.
5.....	{ FIRST SEMESTER .....Selections for Sight Reading.....	Two fifths.
	{ SECOND SEMESTER.....Ovid ; Mythology .....	Three-fifths.
123 .....	{ FIRST SEMESTER .....Classical Antiquities.....	Two-fifths.
	{ SECOND SEMESTER .....Course for Teachers ( <i>Æneid</i> ) .....	Three-fifths.

Courses 1, 2 and 3 must be taken before Course 123.



## COURSES FOR THE BACHELOR'S DEGREE.

## GREEK.

COURSE.		
6.	{ FIRST SEMESTER.....The Iliad; History of Greece..... { SECOND SEMESTER.....The Odyssey; Homeric Criticism.....	Full Course. Full Course.
7.	{ FIRST SEMESTER.....Sophocles; Greek Literature..... { SECOND SEMESTER.....Aeschylus; Euripides.....	Full Course. Full Course.
8.	{ FIRST SEMESTER.....Lytic Poetry; Greek Art..... { SECOND SEMESTER.....Aristophanes; Greek Comedy.....	Two-fifths. Three-fifths.
9.	{ FIRST SEMESTER.....Greek Prose Composition..... { SECOND SEMESTER.....Demosthenes (De Corona); Greek Oratory.....	Three-fifths. Two-fifths.
10.	{ FIRST SEMESTER.....Memorabilia of Socrates..... { SECOND SEMESTER.....Plato's Republic; Greek Philosophy.....	Three-fifths. Two-fifths.
11.	{ FIRST SEMESTER.....Herodotus; History of Greece..... { SECOND SEMESTER.....Thucydides; History of Greece.....	Two-fifths. Two-fifths.



# COURSES FOR THE BACHELOR'S DEGREE. GERMAN.

COURSE.	FIRST SEMESTER.	
19.....	Beginning German—Whitney's Grammar and Reader.....	Full Course.
20.....	German Plays, Tales, and Conversation.....	Full Course.
25.....	Modern Fiction.....	Three-fifths Course.
21 ..	German Lyrics and Ballads.....	Three-fifths Course.
121.....	German Prose Composition.....	Three-fifths Course.
	SECOND SEMESTER.	
23.....	German Historical Dramas.....	Full Course.
26.....	Hermann und Dorothea ; Nathan der Weise.....	Two-fifths Course.
22.....	Goethe's Faust.....	Three-fifths Course.
24.....	Literaturgeschichte.....	Full Course.
122.....	German Prose Composition.....	Two-fifths Course

Courses 19 and 23 are offered for the year 1888-1889, and for every second year thereafter.

Courses 21, 24, 121, and 122 will be given at the option of the instructor.

## COURSES FOR THE BACHELOR'S DEGREE.

## FRENCH.

COURSE.	FIRST SEMESTER.	
27.....	Beginning French—Whitney's Grammar.....	Full Course.
29.....	Prose Authors.....	Full Course.
31.....	Litterature Française.....	Two fifths Course.
33.....	Alfred de Vigny's Cinq Mars.....	Two-fifths Course.
	SECOND SEMESTER.	
28.....	La Fontaine's Fables; Modern Comedies.....	Full Course.
30.....	Athalie; L'Avare; Le Cid.....	Full Course.
32.....	Litterature Française.....	Two-fifths Course.
34.....	Prose of the Nineteenth Century.....	Three-fifths Course.

Courses 27 and 28 are offered for the year 1887-88, and for every second year thereafter; courses 31-34, at the option of the instructor.

COURSES FOR THE BACHELOR'S DEGREE.  
MATHEMATICS AND ASTRONOMY.

(Continued on next page)

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
35.....	Higher Algebra and Theory of Equations.....	Full Course.....	Olney, Burnside & Panton.
39.....	Plane Analytics and Calculus.....	Full Course.....	Olney, Rice & Johnson, Williamson.
41.....	Differential Equations .....	Three-fifths Course.....	Forsythe, Boole.
42.....	Determinants.....	Three-fifths Course.....	Hanus, Dostor, Scott.
43.....	Solid Analytics.....	Three-fifths Course.....	Aldis, Frost.
52.....	General Astronomy .....	Three-fifths Course.....	Newcomb & Holden.

COURSES FOR THE BACHELOR'S DEGREE.  
MATHEMATICS AND ASTRONOMY.

(Continued.)

COURSE.	SECOND SEMESTER.	TEXT BOOKS AND REFERENCE BOOKS.
37 .....	Plane and Spherical Trigonometry .....	Olney, Chauvenet.
40. ....	Differential and Integral Calculus (Con- tinuation of Course 39) .....	Olney, Rice & Johnson, Williamson.
41. ....	Quaternions .....	Hardy, Tait.
47. ....	*Elective Work .....	Watson.
111. ....	Theoretical Astronomy .....	

\*Special work on any subject chosen by the student. Course 47 is for advanced students only.



COURSES FOR THE BACHELOR'S DEGREE.  
NATURAL PHILOSOPHY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
48.....	General Physics—Lectures, Recitations, and Laboratory work .....	Full Course .....	Daniell, Jamin, Stewart, Pickering.
46.....	Mechanics .....	Three-fifths Course.....	Todhunter, Tait and Steele.
171.....	Geometrical and Physical Optics; Lectures and Laboratory work.....	Full Course.....	Parkinson, Heath, Jamin, Mueller, Airy.
	SECOND SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
119.....	General Physics — Lectures, Recitations, and Laboratory work.....	Full Course.....	
172.....	Electricity—Lectures and Laboratory work.	Full Course.....	
173.....	Mechanics.....	Three-fifths Course.....	
Courses 48 and 119 should be completed before 171 and 172 are taken.			

COURSES FOR THE BACHELOR'S DEGREE.  
NATURAL HISTORY, MINERALOGY, AND GEOLOGY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
150.....	General Zoology .....	Full Course.....	Packard.
140.....	Crystallography, Physical and Descriptive Mineralogy , Petrography.....	Not less than three- fifths Course.....	Groth, Rosenbusch, Dana.
	SECOND SEMESTER		TEXT BOOKS AND REFERENCE BOOKS.
141.....	Geology-Inorganic, Dynamic, and Strati- graphical.....	Not less than three- fifths Course.....	Dana, Lyell, Geikie, Le Conte.
160.....	General Botany .....	Full Course.....	Gray, Sachs, Bessey.

## COURSES FOR THE BACHELOR'S DEGREE.

## CHEMISTRY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
130.....	Elementary Chemistry; Non-metals; Metals; Elements of Chemical Theory.....	Full course .....	Remsen, Richter, Roscoe and Schorlemmer.
132.....	Qualitative Analysis, including General Review.....	Not less than Three-fifths course .....	Stoddard, Richter.
134.....	Quantitative Analysis, (including Assaying)	Not less than Three-fifths course .....	Frezenius, Miller and Kiliani
136.....	Organic Chemistry; Compounds of Carbon...	Not less than Three-fifths course .....	Remsen, Richter.
SECOND SEMESTER.			
131.....	130. Continued.....	Full course .....	
133.....	132. Continued .....	Not less than Three-fifths course .....	
135.....	134. Continued .....	Not less than Three-fifths course .....	
137.....	136. Continued.....	Not less than Three-fifths course .....	

COURSES FOR THE BACHELOR'S DEGREE.  
POLITICAL ECONOMY AND HISTORY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS.
74.....	Ethnology of Europe—Lectures.....	One-fifth Course.....	
75.....	General History of Europe from the Reformation to the Congress of Vienna....}	Three-fifths Course.....	Fisher's Outlines.
76.....	English History during the Tudor and Stuart Periods.....}	Three-fifths Course.....	Green's History of the English People.
77.....	Introduction to Constitutional Law.....	Two-fifths Course.....	Cooley's U. S. and Dicey's England.
78.....	History of the Middle Ages.....	Full Course.....	Hallam's Middle Ages and Selections from Gibbon.
80.....	General History of Europe from the Peace of Westphalia.....	Three-fifths Course.....	Fisher's Outlines.
81.....	International Law.....	Two-fifths Course.....	Woolsey's International Law.
82.....	Elements of Political Economy; Lectures and Discussions.....	Full Course.....	
83.....	Political Economy; Recitations and Discussions.....	Full Course.....	Mill and Cairnes.
84.....	Lectures on Emigration and Questions arising therefrom.....	One-fifth Course.....	The Lecturer's Pamphlet—"Thoughts on Emigration."

\*Original work is required in all the Courses. See also Courses 94 and 95.

COURSES FOR THE BACHELOR'S DEGREE.  
MENTAL AND MORAL SCIENCE.

COURSE.	SECOND SEMESTER.		TEXT BOOKS.
85.....	Logic : Deductive and Inductive in Outline.	Two-fifths Course.....	Jevons.
87.....	Logic : Nature and Method.....	Two-fifths Course.....	Thompson's Outlines of the Laws of Thought.
88.....	Mental Philosophy: Senses; Intellect; Will.	Three-fifths Course.....	Sully's Outlines of Psychology.
89.....	Mental Philosophy: Origin of Knowledge, } etc., Lectures and Recitations.....	Full Course.....	Locke's Essay.
92.....	Moral Philosophy; Lectures and Recitations.	Three-fifths Course.....	Greene's Prolegomena.
93.....	Introduction to Philosophy of Kant.....	Three-fifths Course.....	Morris's Kant.
94.....	{ History of Ancient Philos- } With special re- ophy, ..... ference to so- History of Modern Philos- cial and politi- ophy ..... cal theories.	{ Three-fifths Course..... Three-fifths Course.....	Schwegler's History of Philosophy.
95.....			

## REQUIREMENTS FOR GRADUATION.

Five exercises a week during a semester, whether in recitations, laboratory work, or lectures, constitute a *full course of study*. Students must satisfactorily complete *twenty-four full courses* to obtain the recommendation of the Faculty for a degree. It is not essential that the exercises constituting a *full course* shall be in one and the same branch of study; but the student's choice must be approved.

## THE DEGREE OF BACHELOR OF ARTS.

Of the twenty-four full courses which the student is required to complete to obtain the recommendation of the Faculty for the degree of Bachelor of Arts, twelve are *prescribed*: four in Latin; four in Greek; two in mathematics; and two in German. Except by special permission, six of the prescribed courses must be completed before any elective work can be taken: two in Latin; two in Greek or German (20 and 23); two in mathematics. From the other courses offered, the student must select and complete enough to make *twenty-four full courses*.

## THE DEGREE OF BACHELOR OF PHILOSOPHY.

Of the twenty-four full courses which the student is required to complete to obtain the recommendation of the Faculty for the degree of Bachelor of Philosophy, twelve are prescribed: four in philosophy; four in Latin; two in German; and two in mathematics. Except by special permission no elective work can be taken until the student has completed six of the prescribed courses: two in mathematics; two in Latin; and two in German. From the remaining courses offered, the student must select and complete enough to make *twenty-four full courses*.



## THE DEGREE OF BACHELOR OF SCIENCE.

Of the twenty-four full courses which the student is required to complete to obtain the recommendation of the Faculty for the degree of Bachelor of Science, fifteen courses are *prescribed*: four in mathematics; two in German (20 and 23); two in French (27 and 28); two in physics; two in chemistry (132 and 133); one in astronomy; one in mineralogy and geology (140 and 141); one in either botany (150), or Zoology (160). Also two courses more in each of two of the following departments, viz: mathematics, physics, or chemistry. Moreover, the student shall complete German; shall go on with mathematics, and shall take French before taking any electives, except by special permission. From the remaining courses offered, the student must select and complete enough to make *twenty-four full courses*.

## THE DEGREE OF BACHELOR OF LETTERS.

For the degree of Bachelor of Letters, thirteen courses are *prescribed*: one in mathematics; two in philosophy; two in English; four in French, and four in German. The work in mathematics, French, and German must be taken as soon as offered by the instructors. From the remaining courses offered, the student must select and complete enough to make *twenty-four full courses*.

## MASTER OF ARTS AND MASTER OF SCIENCE.

Upon application to the President by any Bachelor of Arts or Bachelor of Science, for an advanced degree, a special committee of the Faculty is appointed, under whose direction the candidate lays out his work and prepares his thesis to secure the degree of Master of Arts or Master of Science. Such application must be accompanied by a statement of the branches of study to which the candidate desires to give special attention.

## PARTIAL WORK.

Certificates of the following form are given to students who comply with the necessary requirements :

*University of Colorado.*

THIS CERTIFIES, That ———— has completed the prescribed course of study in ————.

—————,  
President.

These certificates are given, on application, to all students who have satisfactorily completed certain courses, if the minimum required for a degree has been taken.

## RESIDENT GRADUATES.

Graduates of this University, or of any other university or college, desirous of continuing their studies, may attend public lectures and use the library, laboratory, apparatus and scientific collections, subject to such rules as the Faculty may establish. They may also receive private instruction from the professors in the respective departments.

## ADVANCED STANDING.

Students coming from institutions of like grade should bring certificates definitely stating the amount of work done in each subject. Real equivalents will be accepted. Graduation depends not upon the time spent, but upon work actually accomplished.

## GOVERNMENT.

The discipline of the institution is administered with firmness and impartiality. It aims to develop self-control, manliness, and a generous public spirit ; to induce such a high moral sentiment as will be in itself a powerful governing force in the school.



MEDICAL DEPARTMENT.

# FACULTY.

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HORACE M. HALE, A. M., PRESIDENT,  
BOULDER.

JAMES H. KIMBALL, M. D., SECRETARY,  
DENVER.  
*Principles and Practice of Medicine, Materia Medica, and Therapeutics.*

H. W. McLAUTHLIN, M. D.,  
DENVER.  
*Obstetrics and Diseases of Women and Children.*

GEORGE CLEARY, M. D.,  
BOULDER.  
*Surgery, Ophthalmology, and Otology.*

L. M. GIFFIN, M. D.,  
BOULDER.  
*Anatomy and Physiology.*

CHARLES S. PALMER, Ph. D.,  
BOULDER.  
*Chemistry.*

R. N. MAYFIELD, M. D.,  
BOULDER.  
*Pathology and Hygiene.*

J. M. NORTH, A. M., LL. B.,  
BOULDER.  
*Medical Jurisprudence.*

G. B. BLAKE, M. D.,  
BOULDER.  
*Demonstrator of Anatomy.*

## ANNOUNCEMENT.

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The people of Colorado have ever shown a ready appreciation of the advantages of public education. The State is largely settled by intelligent and educated persons from all parts of the United States, and from nearly every part of the civilized world. The vigorous growth and rapid development of Colorado are not more remarkable than the excellence and extent of its admirable public school system. The University of Colorado forms a part of the public educational system of the State, and, in accordance with the law of the State, aims to complete the work of the public schools, by offering to all persons of either sex, who are qualified for admission, a liberal education in the Arts, the Sciences, and Literature, *without charge for tuition.*

The object of the establishment of this Department is to secure a good medical education for those who may, in the future, be entrusted with the lives and with the health of our citizens. The Regents believe that the lives and health of the people of Colorado are not second in importance to any other interest that can be subserved by the State University. The Medical Department aims to emulate the best schools, but chooses to establish its own standard. The State of Colorado, through this Department of its University, offers no inducement of easy graduation, but proposes to serve the best interests of the citizens of the State.

The University of Colorado, with its different Departments, is established by the Constitution of the State at the beautiful little city of Boulder, which contains a population of nearly five thousand inhabitants, picturesquely situated at the mouth of Boulder Canon, only thirty miles distant



from Denver, and easily accessible by rail from all parts of the State.

Persons suffering from pulmonary or malarial diseases are particularly benefited by a residence in Colorado, and many who had been compelled to relinquish their studies in the East or South have been able here to pursue them without interruption.

The session commences on the 5th day of September, 1888, and ends on the 28th day of May, 1889.

The holiday vacation commences on the 22d day of December, 1888, and ends on the 6th day of January, 1889.

There is a recess of one week commencing on the 23d day of March, 1889.

#### REQUIREMENTS FOR ADMISSION.

All students entering the College will be required to pass a satisfactory examination in the branches of a good English education. Students who present a diploma or certificate of graduation from a literary or scientific college, or a high school, shall be exempt from this preliminary examination.

#### SEXES.

By the provision of the law for the government of the University, both sexes are received upon equal terms.

#### REQUIREMENTS FOR GRADUATION.

I. The candidate must be of good moral character, and have attained the age of twenty-one years.

II. He must present evidence of having studied medicine for at least three years under the direction of a regular graduate or practitioner of medicine of good standing, including the time spent upon lectures, and must have spent at least one continuous year at this school.

III. He must write a thesis on a medical subject and present it to the Secretary at least one month before the close of the session.

IV. He must pass the required examination before the Faculty.

### FEEES.

There is an annual fee of five dollars for incidentals. Graduation and diploma fee, ten dollars. Tuition free.

Students, so desiring, may obtain board and rooms on the University grounds. For particulars, see table of fees and expenses in the General Statement, page 14.

### COURSE OF STUDY.

The course of study consists of a graded course of three years of nine months each year.

In this course, the studies are so arranged that they shall be pursued in the following order :

*First Year.*—Anatomy and Dissection, Chemistry, Physiology, Histology, Materia Medica, Therapeutics, and Botany.

*Second Year.*—Anatomy and Dissection, Chemistry, Physiology, Histology, Materia Medica and Therapeutics, Pathology, Practice of Medicine, Surgery and Obstetrics.

*Third Year.*—Practice of Medicine, Surgery, Obstetrics, Diseases of Women, Diseases of Children, Ophthalmology, Otology, Clinical Medicine and Surgery, Clinical Gynecology, Hygiene and Public Health, and Medical Jurisprudence.

### COURSE OF INSTRUCTION.

The course of instruction extends over a term of three years, with a nine-months' session in each year. It is intended that the student shall have ample time to master each subject ; and especially is it designed that the fundamental branches, such as anatomy, chemistry, materia medica, and physiology, shall be understood before burdening the mind with the more advanced studies of the course.

Oral examinations upon the previous instruction given upon the subject, will precede each lecture and clinic. These examinations will be taken into account in determining the standing of the student at graduation.

### SCHEDULE FOR 1887-88.

*Anatomy*—Three times a week.

*Practical Anatomy with Exercises in Dissection*—Four times a week.

*Physiology*—Twice a week.

*General and Analytical Chemistry*—Once a week.

*Medical and Toxicological Chemistry*—Once a week.

*Practical Exercises in the Chemical Laboratory.*

*Materia Medica and Therapeutics*—Twice a week.

*Pathology and Hygiene*—Twice a week.

*Surgery*—Twice a week.

*Ophthalmology and Otology*—Once a week.

*Obstetrics and Diseases of Children*—Three times a week.

*Gynecology*—Once a week.

*Principles and Practice of Medicine*—Twice a week.

*Medical Jurisprudence*—Ten lectures.

### LABORATORIES AND LIBRARY.

The Chemical and Physical laboratories and apparatus are complete and furnished with all the modern appliances.

The University Library is open to medical students.

### PRACTICAL ANATOMY.

Ample facilities will be afforded for the study of practical anatomy, and no charges will be made for anatomical material.

## HOSPITAL AND CLINICAL INSTRUCTION.

A well arranged and commodious hospital, established on the University grounds, and under the charge of the Medical Faculty, is open to patients resorting thither for treatment.

Clinical instruction will form a prominent feature of the course. The customary medical and surgical clinics will be held at the hospital. The bedside instruction will be thorough, under the guidance of the teachers. Each student, as he advances, will be afforded ample opportunities.

In this way, it is expected that by the time the student becomes a graduate, he will have such a fund of a practical, as well as theoretical knowledge, that, when cast upon his own resources, he will be able to successfully perform the duties of the profession.

## LIST OF TEXT AND REFERENCE BOOKS.

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*Botany*—Sachs, Gray, Bessey.

*Chemistry*—Bloxam, Roscoe, Appleton.

*Anatomy*—Gray, Heath.

*Physiology*—Dalton, Foster, Flint, Yeo's Manuel.

*Materia Medica*—H. C. Wood, Biddle.

*Medicine*—Flint, Bartholow, Palmer, Loomis.

*Obstetrics*—Playfair, Cazeaux, Leishman, Lusk.

*Diseases of Women*—Thomas, Byford, Goodell, Tilt.

*Diseases of Children*—Smith, Meigs and Pepper, Ellis.

*Diseases of the Eye*—Williams, Wells, Carter.

*Diseases of the Ear*—Turnbull, Burnett, Roosa.

*Histology*—Cornil and Ranvier, Satterthwaite.

*Pathology*—Billroth, Coates, Woodhead.

*Medical Jurisprudence*—Taylor, Wormley, Stille.

*Hygiene and Public Health*—Buck.

*Microscopy*—Frey, Beale.

*For Reference*—Dunglison's Dictionary, United States and  
National Dispensatories.

NORMAL SCHOOL.





## NORMAL SCHOOL.

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The object of this department is the training of teachers for the public schools of the State. Lectures on pedagogics and familiar talks, covering the various subjects connected with school work, will be given from time to time, in addition to the regular prescribed lectures of the fourth year of the course. Members of the class will be called upon to conduct recitations in the presence of a teacher, who will criticize, and suggest. All the work of this department will be made as practical as circumstances will permit.

Among the advantages of having the State Normal School in connection with the State University are the following: (1) The pupils come in contact with, and are aroused by, the University spirit. (2) The pupils have opportunities for better instruction. (3) It permits a more extended course, and hence tends to raise the scholarship of the teachers in the State.

### ADMISSION.

Applicants for admission to the Normal School will take the examination required for admission to the Preparatory School. Candidates for advanced standing must pass a satisfactory examination in preceding work. Examinations for admission will be held at the same time and place as for the Preparatory School.

# COURSE OF STUDY.

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[The number opposite a branch of study indicates the number of recitations a week.]

## FIRST YEAR.

ALGEBRA . . . . .	5
HISTORY . . . . .	3
ENGLISH . . . . .	2
PHYSIOLOGY (until January 1) . . . . .	5
LATIN (after January 1.) . . . . .	5

## SECOND YEAR.

PHYSICS . . . . .	5
CHEMISTRY . . . . .	5
LATIN . . . . .	5

## THIRD YEAR.

GEOMETRY . . . . .	5
GERMAN OR GREEK . . . . .	5
LATIN (first half year) . . . . .	5
LATIN OR PHYSICAL GEOGRAPHY (last half year) . . . . .	5

## FOURTH YEAR.

### FIRST HALF YEAR.

DIDACTICS—Lectures on Methods . . . . .	1
CONSTITUTIONAL Law—Course 77 . . . . .	2
GEOLOGY—Course 141 . . . . .	3
ASTRONOMY—Course 114 . . . . .	3
BOOK-KEEPING . . . . .	1
ELECTIVE . . . . .	5

### SECOND HALF YEAR.

PEDAGOGICS—Lectures on School Management and School Law . . . . .	1
PSYCHOLOGY—Course 88 . . . . .	3
BOTANY—Course 160 . . . . .	5
ELECTIVE . . . . .	2
TRIGONOMETRY . . . . .	4

Methods of instruction in the various branches are taught and exemplified throughout the course. Instruction in elocution and vocal music will be offered, and attendance thereupon required, but such attendance cannot take the place of any of the fifteen exercises for each week.

#### DIPLOMA OF THE NORMAL SCHOOL.

All students who complete the prescribed work will receive the Normal Diploma.

#### STUDENTS RECOMMENDED FOR TEACHERS.

The State University, standing at the head of the public schools, is called to supply teachers for all grades, from the lowest to the highest. County Superintendents and School Boards are assured that the Faculty will recommend only such students for teachers as, in their opinion, have made a good record.



# PREPARATORY SCHOOL.





## PREPARATORY SCHOOL.

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The object of this school is to prepare students for courses leading to the Bachelor's degree.

One course of study of three years is prescribed. By order of the Board of Regents, *all students in this department will take the course as prescribed.*

This order, however, will not be so construed as to prevent a student from taking such additional work as he may desire, and, in the opinion of the Faculty, is capable of accomplishing.

### REQUIREMENTS FOR ADMISSION.

Applicants for admission to the Preparatory School must pass an examination in English grammar, arithmetic, geography, and outlines of United States history.

In English, students must be able to recognize the parts of speech, to apply the rules of syntax, to decline nouns and pronouns, to compare adjectives and adverbs, to conjugate verbs, to distinguish principal clauses from subordinate clauses, to determine whether a given clause is used substantively, adjectively or adverbially, and to write a short letter in due form with proper spelling, punctuation and arrangement.

The examination in Arithmetic will include common and decimal fractions, greatest common divisor, least common multiple, percentage, involution and evolution, and the metric system of weights and measures.

Those proposing to enter at an advanced standing will also be examined in such studies as have been pursued previous to their admission.

## THE CERTIFICATE OF THE PREPARATORY SCHOOL.

Certificates of graduation will be given to students who complete the course of study. On this certificate students are admitted to any of the courses leading to the Bachelor's degree, or to the fourth year of the Normal Course.

### REGULATIONS.

Students who enter the school must register at the office each year, and pay the Reading-room fee. The matriculation fee is paid but once, and that upon first entrance. A student who withdraws without obtaining the written consent of his instructors, is dropped from the roll, and can be readmitted only by vote of the regents.

All students are required to assemble in the auditorium Monday mornings, immediately after the first recitation.

Students neglecting any recitation, or absenting themselves without good excuse are suspended from the privileges of the school.

All applications for an increase or a decrease of work must be made in writing to the President of the Faculty, and must allege one of the following reasons :

1. Physical or mental disability.
2. Ability to perform additional work.

If the first reason is alleged, the student will be directed to discontinue such work, *both in kind and amount*, and for such time as the Faculty shall deem proper. If the second reason is alleged, the student's work will be increased if his standing in class justifies it. The Faculty reserves the right to increase or lessen any student's work at any time.

# COURSE OF STUDY.

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[The number opposite a branch of study indicates the number of recitations a week.]

## FIRST YEAR.

MATHEMATICS—Olney's Complete Algebra . . . .	5
ENGLISH . . . . .	2
HISTORY—Swinton's Outlines . . . . .	3
SCIENCE—Physiology, until January 1 . . . . .	5
LATIN—Allen & Greenough's Grammar, Collar & Daniel's Lessons; after January 1. . . . .	5

## SECOND YEAR.

LATIN—Kelsey's Caesar . . . . .	5
PHYSICS . . . . .	5
CHEMISTRY—Richter, Muir . . . . .	5

## THIRD YEAR.

LATIN—Greenough's Virgil . . . . .	5
MATHEMATICS—Chauvenet's Geometry . . . . .	5
GERMAN—Whitney's German Grammar and Reader	5
*GREEK—Goodwin's Grammar; Moss's Reader; Iliad	5

Supplementary to this Course some readings in English are required.

*First Year*—Hawthorne, Selected Tales ; Shakspeare, Merchant of Venice ; Bunyan, Pilgrim's Progress.

*Second Year*—Webster, Speeches ; Addison, Selections from Spectator ; Shakspeare, Julius Cæsar.

*Third Year*—Bacon, Essays ; Shakspeare, Hamlet, Irving, Sketch book.

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\*During the third year students will be required to take German or Greek, but not both.



# CATALOGUE OF STUDENTS.





DEPARTMENT  
—OF—  
PHILOSOPHY AND THE ARTS.

NAME.	RESIDENCE.
ANDREWS, JAMES ERNEST,	<i>Boulder.</i>
BAYLEY, EMERY HERBERT,	<i>Greeley.</i>
BOYD, EVANTHIE CLARISSA,	<i>Greeley.</i>
BOYD, PSYCHE EUZELIA,	<i>Greeley.</i>
BEARDSLEY, HELEN,	<i>Redfield, Dak.</i>
BRACE, MABEL,	<i>Boulder.</i>
COFFIN, GENEVA,	<i>Longmont.</i>
DUNCAN, GUY DALE,	<i>Longmont</i>
FULTON HENRY,	<i>Boulder.</i>
GIFFIN, LOUISE,	<i>Boulder.</i>
GREENE, CARRIE MASON,	<i>Boulder.</i>
HALL, HORACE CHARLES,	<i>Boulder.</i>
HOUSEL WILLIAM CEPHAS, B. S., Northern Illinois College, 1883.	<i>Boulder.</i>
INGRAM, EDITH EDNA,	<i>Denver.</i>
JOHNSON, MARY BALL,	<i>Boulder.</i>
LYCAN, CORA EMMA,	<i>Denver.</i>

MASON, EDWARD COOK,	<i>Boulder.</i>
MAYFIELD, R. N.,	<i>Boulder.</i>
MILLER, CHARLES FERDINAND,	<i>Boulder.</i>
PERSONS, SILAS EDWARD,	<i>Boulder.</i>
A. B., Hamilton College, 1881; A. M., University Colo., 1887.	
PERSONS, ELIZABETH,	<i>Boulder.</i>
PIERCE, LOMIE WASHBURNE,	<i>Boulder.</i>
SAMSON, SAMUEL MILTON,	<i>Boulder.</i>
STANTON, LEWIS HARPER,	<i>Boulder.</i>
STERNBERG, EMMA LORENA,	<i>Boulder.</i>
STERNBERG, GUY,	<i>Boulder.</i>
STERNBERG, LAMBERT,	<i>Boulder.</i>
THOMPSON, ELIZABETH BALLARD,	<i>Boulder.</i>
THOMPSON, GUY VAN GORDER,	<i>Boulder.</i>
WHITELEY, MARGARET HORTENSE,	<i>Boulder.</i>
WISE, LILLIAN RACHEL,	<i>Boulder</i> —31.

## DEPARTMENT OF MEDICINE.

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IRVIN E. BENNETT,  
ELLSWORTH CUMMINGS,  
EDWARD M. FONDA,  
EDGAR G. FERGURSON,  
ANDREW HAYES,  
G. S. JOHNSON,

FANNIE M. LAKE,  
W. S. MAYFIELD,  
D. H. PARSONS,  
GRANT SAFLEY,  
FREDERICK C. WOLFER,  
WM. S. WAGNER,

# NORMAL SCHOOL

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NAME.	RESIDENCE.
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## FIRST CLASS.

TETERS, WILBERTINE NESSLERHODE,	<i>Boulder.</i>
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## SECOND CLASS.

BURGER, CHARLES ROLAND,	<i>Boulder.</i>
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PORTER, LESTON LEON,	<i>Silver Cliff.</i>
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## THIRD CLASS.

DURWARD, MARGARET ELIZABETH,	<i>Valmont.</i>
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GREEN, HATTIE ELMA,	<i>Boulder.</i>
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TOURTELLOT, MARIA,	<i>Boulder.</i>
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## FOURTH CLASS.

AUSTIN, LILLIAN JANE,	<i>Boulder.</i>
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BASHOR, ZETTIE ELIZABETH,	<i>Longmont.</i>
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BAILEY, ANNA BELL,	<i>Boulder.</i>
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BLANCHARD, DORA MAY,	<i>Boulder.</i>
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GOODFELLOW, MARGARET, ,	<i>Fenton, Mich.</i>
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GREEN, LUCY ELIZA,	<i>Boulder.</i>
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HAYMAN, MARY ELIZABETH,	<i>Boulder.</i>
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JOHNSON, MELLIE,	<i>Collins, Wyoming.</i>
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McCracken, Otteia,	<i>Gunnison.</i>
McFerren, Lulu Lorena,	<i>Boulder.</i>
Mishler, Viva,	<i>Black Hawk.</i>
Sale, Sallie Jane,	<i>Boulder.</i>
Seanor, Katie Philena,	<i>Boulder.</i>
Stanton, Kate Mitchel,	<i>Boulder.</i>
Viele, Abbie L.,	<i>Boulder.</i>
Wilder, Florence,	<i>Boulder.</i>
	—22.



# PREPARATORY SCHOOL.

## FIRST CLASS.

NAME.	RESIDENCE.
COPELAND, ROYAL TIMOTHY,	<i>Boulder.</i>
ESTES, EDWIN,	<i>Longmont.</i>
ROWLAND, GEORGINA,	<i>Boulder.</i>
WILSON, HARRY NOBLE,	<i>Brighton.</i>

## SECOND CLASS.

NAME.	RESIDENCE.
ADAMS, WINIFRED,	<i>Boulder.</i>
ANDREWS, IRVING,	<i>Boulder.</i>
BURGER, FRED WILLIAM,	<i>Boulder.</i>
DURWARD, ALEXANDER,	<i>Valmont.</i>
DURWARD, ARTHUR,	<i>Valmont.</i>
INGRAM EDWIN JOHN,	<i>Boulder.</i>
MAXWELL, HELEN FRANK,	<i>Boulder.</i>
NILES, FREEDIE ESTELLA,	<i>Boulder.</i>
NORTH, PAUL MCCOY,	<i>Boulder.</i>
TETERS, LUELLA,	<i>Boulder.</i>
VAN DEREN, HELEN,	<i>Boulder.</i>
WHITELEY, ZENA AGAR.	<i>Boulder.</i>

## THIRD CLASS.

NAME.	RESIDENCE.
ALBERTSON, ALICE JANE,	<i>Boulder.</i>
ANDREWS, HILLIARD STANTON,	<i>Boulder.</i>
ANDREWS, SUSIE MAY,	<i>Boulder.</i>
BECKER, THEODORE,	<i>Central City.</i>
BERLIN, LETIA,	<i>Boulder.</i>
BOWLES, CHARLES WESLEY,	<i>Littleton.</i>
BRALEY, JULIA ANNETTE,	<i>Boulder.</i>
BROWN, MARY ESTELLA,	<i>Pueblo</i>
BURKE, REUBEN VICTOR,	<i>Boulder.</i>
CARR, MARY EDITH,	<i>Boulder.</i>
CHEAIRS, MINNIE LOVE,	<i>Sterling.</i>
COPE, FRANK CONNOR,	<i>Boulder.</i>
CULVER, JOHN KENNICOTT,	<i>Boulder.</i>
DUNCAN JAMES DELL,	<i>Longmont.</i>
FEGAN, HARRIET ADELIA,	<i>Boulder.</i>
FOY, GUSTAVE DORE,	<i>Boulder.</i>
FRY, CELIA MAY,	<i>Boulder.</i>
GALLUP, EDWARD PALMER,	<i>Boulder.</i>
GOULD, WILLIAM HENRY,	<i>Boulder.</i>

GROESBECK, CHARLES EDNOR,	<i>Boulder.</i>
HALL, FRED BURDETT,	<i>Boulder.</i>
HARVEY, LOUISE,	<i>Boulder.</i>
HENRY, ALBERT THOMAS, JR.,	<i>Boulder.</i>
KENDRICK, OTIS ALONZO,	<i>Boulder.</i>
MAXWELL, ORVILLE MABEL,	<i>Boulder.</i>
MCGHEE, MABEL ELIZABETH,	<i>Kent, Ohio.</i>
MCGINNIS, HARRY,	<i>Boulder.</i>
MCINTOSH, WILLIAM EDWARD,	<i>Boulder.</i>
MISHLER, IDA,	<i>Black Hawk.</i>
NILES MARY WOOD,	<i>Boulder.</i>
PITZER, GRANT,	<i>Ainsworth, Kansas.</i>
REED, LOUELLA,	<i>Boulder.</i>
RICE, HATTIE J.,	<i>Fort Morgan.</i>
RUST, MELVILLE MAXWELL,	<i>Boulder.</i>
RUST, NELLIE,	<i>Boulder.</i>
SCHRIVER, GERTRUDE MAY,	<i>Boulder.</i>
SHULL, JESSIE LOVELLA,	<i>Berthoud.</i>
SMITH, ALWYN CHARLES,	<i>Boulder.</i>
SPAULDING, THOMAS,	<i>Boulder.</i>
STERNBERG, GEORGE,	<i>Boulder.</i>
STERNBERG, ROY,	<i>Boulder.</i>
SWEENEY, WILLIAM HENRY, JR.,	<i>Pueblo.</i>

THOMPSON, HENRY RUSSELL,	<i>Boulder.</i>
THOMPSON, LORIN ANDREW,	<i>Boulder.</i>
TILNEY, MERRITT WELTON,	<i>Boulder.</i>
TRITCH, GEORGE, JR.,	<i>Denver.</i>
VAN, LILA ELLEN,	<i>Boulder.</i>
WASHBURNE, HARRY ALLEN,	<i>Boulder.</i>
WHITAKER, MILTON CLARENCE,	<i>Durango.</i>
WILCOX, CHARLES HENRY,	<i>Boulder.</i>
WILDER, FRED WILLIAM,	<i>Boulder.</i>
WILSON, ELI PIGMAN,	<i>Dunlapville, Ind.</i>
WILSON, HELEN WINIFRED,	<i>Brighton.</i>
WISE, WILLIAM DANIEL,	<i>Boulder.</i>
WOY, LEOTA,	<i>Boulder.</i>

## SUMMARY.

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	71
TOTAL.....	136

## DEGREES CONFERRED.

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1882.

HENRY ALEXANDER DRUM, A. B.  
OSCAR EUGENE JACKSON, A. B.  
JAMES IRVIN MCFARLAND, A. B.  
JOHN JULIAN MELETTE, A. B.  
HAROLD DAVIS THOMPSON, A. B.,  
RICHARD HENRY WHITELEY, JR., A. B.; A. M., 1887.

1883.

ERNEST MONDELL PEASE, A. B.; A. M., 1885.  
TIMOTHY WILLIAM STANTON, B. S.

1884.

BENJAMIN LOUIS HOLSTEIN, B. S.

1885.

HENRY CARTER EVANS, M. D.  
HARRISON EDWARD STROUD, M. D.

1886.

GUSTAVE BEAUREGARD BLAKE, M. D.  
HOLLIS ILLSEY BRAGDON, M. D.  
FREDERICK LINCOLN CHASE, A. B.  
VICTOR IRVIN NOXON, B. S.  
CLARENCE HARLOW PEASE, B. S.  
JUDSON ROWLAND, B. L.  
HELEN FLORENCE TYLER, A. B.  
EDWARD CORNING WOLCOTT, A. B.

1887.

JACOB CAMPBELL, M. D.  
SILAS EDWARD PERSONS, A. M. (A. B., Hamilton College, '81.)  
CHARLES HERBERT PIERCE, A. B.  
JENNIE SEWALL, A. B.



## GRADUATES FROM NORMAL SCHOOL.

---

JAMES ERNEST ANDREWS, 1887.

LILLIAN BUTTERS, 1879.

MARY PORTER, 1880.

WILBERTINE N. TETTERS, 1888.

CYNTHIA WESTOVER, 1879.

# GRADUATES FROM THE PREPARATORY SCHOOL.

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1878.

THURSTON AIKENS,  
GUSTAVUS A. CAGE,  
HENRY A. DRUMM,  
OSCAR JACKSON,  
JAMES IRVIN MCFARLAND,  
JOHN JULIAN MELLETTE,  
LILLIAN EMMA TYLER,  
MONTFORD SCHLEY WHITELEY,  
RICHARD HENRY WHITELEY, JR.  
—9.

1879.

NELLIE F. BARKER,  
CHARLES B. GALLUP,  
ERNEST M. PEASE,  
TIMOTHY W. STANTON,  
HELEN FLORENCE TYLER. —5.

1880.

HELEN BEARDSLEY,  
CLARA BUTTLES,  
ALBERT J. GOODELL,  
BENJAMIN HOLSTEIN,  
FRANK C. LORING, —5.

1881.

ROBERT L. CULVER,  
EVERETT N. PICKEL,  
JUDSON ROWLAND,  
BURT TYLER,  
EDWARD C. WOLCOTT. —5.

1882.

JOSEPHINE BERKLEY,  
MARY VAN VALKENBURG,  
FRED. LINCOLN CHASE,  
CLARENCE PEASE,  
WILLIAM J. THOMAS. —5.

1883.

LILLIAN F. BEAN,  
NEWTON D. ESTES. —2.

1884.

MARY BALL JOHNSON,  
EDWARD COOK MASON,  
VICTOR IRWIN NOXON,  
CHARLES HERBERT PIERCE,  
JENNIE SEWALL,  
CATHERINE WISE. —6.

1885.

GEORGE McCLELLAND CULVER,  
 GUY DALE DUNCAN,  
 LAMBERT STERNBERG,  
 LOMIE LOUISE WASHBURNE.

—4.

1886.

CATHERINE DORR,  
     Latin-Scientific.  
 CORA EMMA LYCAN,  
     Latin-Scientific.  
 SAMUEL MILTON SAMSON,  
     Latin-Scientific.  
 EMMA LORENA STERNBERG,  
     Latin-Scientific.  
 ELIZABETH BALLARD THOMPSON,  
     Latin-Scientific.

—5.

1887.

JAMES ERNEST ANDREWS,  
     Classical.  
 ELLA BELLE CARPENTER,  
     Scientific.  
 GENEVA COFFIN,  
     Scientific.  
 ANNIE ELIZABETH CULVER,  
     Scientific.  
 HORACE CHARLES HALL,  
     Classical.  
 EDITH EDNA INGRAM,  
     Scientific.  
 CHARLES FERDINAND MILLER,  
     Classical.  
 LEILA ROSE PEABODY,  
     Scientific.  
 CORA ESTHER SHELDON,  
     Classical.  
 LEWIS HARPER STANTON,  
     Scientific.  
 GUY STERNBERG,  
     Classical.  
 WILBERTINE NESSLERHODE TE-  
     TERS,  
     Scientific.  
 HORTENSE WHITELY,  
     Scientific.  
 LILLIAN RACHEL WISE,  
     Scientific.

—16.

TOTAL, - - 60.

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# CATALOGUE

AND

## ANNOUNCEMENTS

OF THE

University of Colorado.

BOULDER, COLORADO.

1890-'91.

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BOULDER, COLORADO:  
Herald Steam Printing House.  
1890.

1890.

## JULY.

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## AUGUST.

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## SEPTEMBER.

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## OCTOBER.

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## NOVEMBER.

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## DECEMBER.

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## ANNOUNCEMENTS.

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### · SPRING SEMESTER, 1890.

SEMESTER BEGAN.....January 20.  
COMMENCEMENT DAY.....May 27.

### FALL SEMESTER, 1890--91.

ENTRANCE EXAMINATION.....September 9.  
SEMESTER BEGAN.....September 10.  
RECESS BEGINS.....December 20.  
EXERCISES RESUMED.....January 5.  
SEMESTER CLOSES.....January 16.

### SPRING SEMESTER, 1891.

SEMESTER BEGINS.....January 19.  
RECESS BEGINS.....March 21.  
EXERCISES RESUMED.....March 30.  
ENTRANCE EXAMINATION.....May 23.  
COMMENCEMENT DAY.....May 26.

Entrance examination for Fall Semester, 1891, Tuesday, September 8.

Opening of Fall Semester, 1891, September 9.

All Examinations begin at 8:15, a. m.

5716

## BOARD OF REGENTS.

HON. ROGER W. WOODBURY.....	<i>Denver.</i>
Term expires, 1890.	
HON. DANIEL E. NEWCOMB.....	<i>La Jara.</i>
Term expires, 1890.	
HON. E. J. TEMPLE.....	<i>Boulder.</i>
Term expires, 1892.	
HON. WOLFE LONDONER.....	<i>Denver.</i>
Term expires, 1892.	
HON. S. A. GIFFIN.....	<i>Boulder.</i>
Term expires, 1894.	
HON. CHARLES R. DUDLEY.....	<i>Denver.</i>
Term expires, 1894.	

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## OFFICERS OF THE BOARD.

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HORACE M. HALE,	-	-	-	President.
S. A. GIFFIN,	-	-	-	Secretary.
C. G. BUCKINGHAM,	-	-	-	Treasurer.

# FACULTY.

HORACE M. HALE, LL. D.,

*President.*

MARY RIPPON,

*Professor of German and French.*

I. C. DENNETT, Ph. D.,

*Professor of Latin.*

J. RAYMOND BRACKETT, Ph. D.,

*Professor of Comparative and English Literature.*

JAMES H. KIMBALL, M. D.,

*Professor of Principles and Practice of Medicine, Materia Medica, and  
Therapeutics, Dean of the Medical Faculty.*

H. W. McLAUTHLIN, M. D.,

*Professor of Obstetrics and Diseases of Women.*

GEORGE CLEARY, M. D.,

*Professor of Ophthalmology, Otology and Laryngology.*

W. J. WAGGENER, A. M.,

*Professor of Natural Philosophy.*

L. M. GIFFIN, M. D.,

*Professor of Anatomy and Physiology.*

CHARLES SKEELE PALMER, Ph. D.,

*Professor of Chemistry.*

IRA M. DeLONG, A. M.,

*Professor of Mathematics.*

JOHN GARDINER, B. Sc.,

*Professor of Biology and Histology.*

CHARLES RICHARD, M. D., U. S. A.,

*Professor of Surgery.*

MAURICE E. DUNHAM, A. M

*Professor of Greek.*

J. M. NORTH, A. M., LL. B.,

*Lecturer on Medical Jurisprudence.*

H. O. DODGE, M. D.,

*Lecturer on Pathology and Clinical Medicine.*

H B. WHITNEY, M. D.,

*Lecturer on Physical Diagnosis.*

G. B. BLAKE, M. D.,

*Demonstrator of Anatomy.*

CHARLES H. FARNSWORTH,

*Instructor in Music.*

CHARLES CAVERNO, A. M.,

*Lecturer on Psychology and Ethics.*

HERBERT E. COBB, A. M.,

*Instructor in Mathematics.*

CAROLINE M. HYDE, B. S.,

*Instructor in Latin.*

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CHARLES E. LOWREY, Ph. D.,

*Librarian.*



## GENERAL STATEMENT.

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The Constitution of the State of Colorado provides for the election of a Board of Regents of the University and defines its duties as follows: "*The Board of Regents shall have the general supervision of the University, and the exclusive control and direction of all funds of, and appropriations to, the University.*" The President of the University is *ex officio* a member of the Board of Regents and its presiding officer. The organic act, establishing the University and providing for its maintenance, was passed by the General Assembly of Colorado, March 15, 1877. Its object, as defined by that act, is "*To provide the best and most efficient means of imparting to young men and women, on equal terms, a liberal education and thorough knowledge of the different branches of literature, the arts and sciences, with their varied applications.*"

## HISTORY.

The University of Colorado was incorporated by an act of the Territorial Legislature of 1860, and the location fixed at Boulder. In 1871, three public-spirited citizens donated to the University fifty-two acres of land adjoining the city, valued at \$5,000. In 1874, the Territorial Legislature appropriated \$15,000, and the citizens of Boulder contributed a like sum in cash. In 1875, Congress set apart and reserved seventy-two sections of the public lands for the support of the State University. In 1876,

the Constitution of Colorado provided that upon its adoption the University of Boulder should become an institution of the State, thus entitling it to the lands appropriated by Congress, and further made provisions for the management and control of the University. The first General Assembly of the State made provision for its permanent support by a levy of a tax of one-fifth of a mill upon the property of the State; also for a fund to be secured by the sale of lands donated by the United States.

The Institution was opened September, 1877, with two teachers and forty-four pupils.

In 1878, the General Assembly appropriated \$7,000 for apparatus, furniture, etc. In 1883, the General Assembly provided a special fund by a tax levy of one-fifth of a mill, for the years 1883 and 1884, yielding about \$40,000. This fund was expended for books, apparatus, furniture, additional buildings, and for the improvement of the grounds. The University is maintained by a tax levy of one-fifth of a mill on the assessed valuation of the property of the State.

## LOCATION.

The University has a beautiful situation upon the high grounds on the south side of Boulder creek, and overlooks the city of Boulder. The scenery is not surpassed, if equalled, in the whole Rocky Mountain region. To the west are seen the boldest and highest foot-hills of the range, and far away the ever snow-capped summit of Arapahoe Peak. On the south, rise the beautiful *mesas* or table-lands; while to the north and east, as far as the eye can reach, extend fertile plains, dotted with lakes, and in June, beautifully green with crops of cereals. The tourist may find in Boulder, South Boulder, and Bear canons, and on the road to Sunshine and Gold Hill, scenery as grand, varied, and beautiful as any in the State, or

even in Switzerland. The climate is all that could be desired, neither excessively warm in summer, nor cold in winter. The close proximity of some of the richest mines of the State, and of extensive reduction works where the crude ore is treated, affords students of chemistry and metallurgy rare opportunities for obtaining a practical knowledge of these sciences. The mountain peaks, canons, mesas and plains, afford rare opportunities for the study of geology, crystallography, and glacial action.

## BUILDINGS.

**THE MAIN BUILDING.**—The main building is about sixty feet by one hundred feet. It is of brick and is three stories in height above the basement. The basement contains the physical laboratory and lecture room, and the janitor's quarters. On the first floor are three recitation rooms, a large auditorium and the President's office. The second story contains the libraries, two recitation rooms, and the office of the *Portfolio*. Upon the third floor are the chemical and biological lecture rooms, store rooms, laboratories, and a large recitation room fitted for using the sciopicon.

**THE MEDICAL HALL.**—The Medical Hall is a two-storied building, erected especially for the use of the Medical Department.

**THE HOSPITAL.**—The Hospital is a brick structure, two stories in height, containing large and small wards and living apartments for the keeper. It is under the management of the Medical Faculty.

**WOODBURY HALL.**—Woodbury Hall is a new dormitory for male academic students. It is built of gray and red sandstone and is three stories in height above the basement. It is heated by steam, lighted by electricity, and is supplied with hot and cold water, bath rooms, etc.

The rooms are in suites of three rooms each—a sitting or study room, 12 feet by 14 feet, and two bed rooms, each 10 by 12 feet, with commodious closets. The bed rooms are furnished with double iron bed-steads and woven wire mattresses. There are twelve of these suites, affording ample room for forty-eight students.

COTTAGE NUMBER ONE.—Cottage No. 1 has just been enlarged to double its original size. It is a two storied brick. The lower floor contains a dining room of sufficient size to seat one hundred persons, culinary apartments, reception room for students, and a family room. The upper floor constitutes the ladies' dormitory. It contains twelve rooms and a bath room. A laundry is in the basement.

COTTAGE NUMBER TWO.—Cottage No. 2 is a two-storied brick, containing twelve rooms and a bath room. It is used as a dormitory by medical students.

THE PRESIDENT'S HOUSE.—This is a two storied brick house of ten rooms, besides bath room, laundry, cellar and furnace room.

The improvements upon the campus have cost about one hundred thousand dollars.

## BIOLOGICAL LABORATORY AND CABINETS.

The laboratory of the Biological Department is situated on the third floor of the main building. It is fitted with tables of suitable height for dissection and microscopic work and is supplied with all necessary apparatus. Ten compound microscopes, made by Bausch and Lomb, are provided, and each student has the use of one. Microtomes of the Bausch and Lomb and Jung-Thoma patterns are in use. There is a full supply of glassware, staining fluids, re-agents and other material, and more apparatus and microscopes will be added as occasion arises.

The cabinets in this department are being constantly increased by the addition of material for actual useful study. The cabinet of zoology is provided with a series of typical vertebrate skeletons, prepared by Ward, of



Rochester, for the study of comparative osteology; and with about one hundred and fifty specimens of marine invertebrates and fishes in alcohol prepared by Signor Lo Bianco of the Zoological Station, Naples, Italy. There are also collections of invertebrate skeletons and shells, and of the reptiles and amphibians of Colorado.

The herbarium was increased about one hundred per cent during the past year and contains about fifteen hundred species of plants, including specimens from all parts of the United States, especially from Colorado and New England. There is a small collection of lichens from Jamaica, and of West Indian sea weeds in alcohol, and numerous alcoholic specimens of native plants for laboratory use during the winter. The addition by purchase of some of the more useful published sets of *exsiccatæ* is in contemplation.

For additions to the cabinets during the past year, the department of biology has to thank the following donors: Dr. Poley, Boulder; Lady Blake, Jamaica, W. I.; Prof. C. S. Palmer, Boulder; U. S. Dept. of Agriculture, Washington, D. C.; L. W. Stillwell, Deadwood, S. Dak.; H. R. Fling, Old Orchard, Me; Prof. Gardiner, Boulder; and Dr. Harold Sidebotham, Munich, Germany.

#### CHEMICAL LABORATORY.

Five rooms on the third floor are devoted to this department. They include a lecture room, two laboratories, a stock room, and a room containing balances.

The supply of stock and apparatus is being continually enlarged and added to, and full provision is made for thorough demonstration and experimentation.

#### MINERALOGICAL AND GEOLOGICAL LABORATORY AND CABINET.

One room on the third floor is devoted to the collection and apparatus of this department. The mineralogical and geological cabinet includes about 1,000 specimens

of American and foreign rocks, a fine set of wooden crystal models, and about 500 typical mineral and rock sections, with a fine petrographical microscope.

The nucleus of the cabinet of minerals was donated some years ago by J. Alden Smith, and has been added to by many friends of the University.

The valuable collection of Mr. James Cowie is loaned to the University and is placed in the President's Office.

The rooms, stock, apparatus, etc, of the Chemical and Biographical Departments are near at hand, and are available, in so far as students take the courses regularly leading to work in mineralogy and geology.

## PHYSICAL LABORATORY.

The physical laboratory now occupies all of the rooms in the north half of the basement of the main building.

The following list includes some of the more important additions to the physical apparatus which have lately been made:

Large dividing engine for graduating circular scales and verniers; cathetometer; reading telescope and theodolite; large dividing engine for straight scales and verniers; micrometer with microscope and telescope; spherometer; callipers, gauges and various accessories for measurements of length.

Barometers; set of hydrometers, scales, weights, flasks, and other apparatus for the determination of density.

Set for the study of thermometry and calorimetry.

Magnetic dip-circle; set of three magnetometers, and accessories.

Thomson quadrant electrometer; one-third microfarad condenser; Thomson mirror-galvanometer with variable resistances and shunts; standard one-ohm coil; box of resistance coils, from 1 to 5,000 ohms, 10,000 ohms in the aggregate, etc., completing the set for accurate electrical measurements.

Two large heliostats, driven by electrical clock-work.

Grand spectrometer by the Societe Genevoise of Switzerland, with accessories, including a diffraction grating ruled by Prof. Rowland, of Baltimore, with 14,438 lines per inch; solid and hollow prisms; an assortment of Pluecker's tubes, end-on spectrum tubes, absorption films, and a variety of other materials for spectroscopic work.

Large projection polariscope by the Societe Genevoise, with set of crystal films and accessories for the study of double refraction and polarization of light. To this set has been added a number of articles from the Duboscqs of Paris, including set of quartz plates, Fresnel's rhombs, and Fresnel's prism for circular double refraction.

Diffraction banc and optical banc by the Societe Genevoise with very complete and excellent set of accessories for the study of diffraction, including among many others, Fresnel's mirrors and biprism, micrometer eye-piece and slits, Billet's lens and compensator, theodolite, and direct-vision spectroscope.

Large rotating apparatus.

Projecting lantern, Lissajou's forks, Wheatstone's kaleidophone, and large pendulum apparatus, for compounding harmonic motions.

Also many minor pieces not named above.

Other import additions are to be made during the current year.

Students of physics in the Preparatory School, as well as in the Department of Philosophy and the Arts have the benefit of the laboratory, and work there two or more afternoons in each week throughout the year.

For a synopsis of the laboratory work for undergraduate students, see "Courses of Study."

## THE LIBRARY.

The library owes its foundation to the generosity of Mr. Chas. G. Buckingham, of Boulder, Colorado.

Exclusive of pamphlets, it contains 6,920 volumes; 5,270 volumes of well selected general works; 1,650 volumes of valuable public documents.

The books have been chosen with great care and discrimination; the best and the most essential, in fact, in the various departments of investigation.

The library, though small, possesses rare and costly volumes, to consult which scholars are already attracted to the University:

Valuable bound files of such general periodicals as *Nature*, *The Nation*, *Revue des deux Mondes*, *Edinburgh Review*, etc.

A small but interesting collection of books in philos-



ophy, social science and education, including a complete set of Barnard's Journal of Education.

A philological library, rich in rare books and dictionaries; for example, the Hickesius Anglo-Saxon Thesaurus.

A choice mathematical library, embracing Montucla's *Histoire des Mathematiques*, Hoffman's *Wörterbuch*, the works of Gauss, Jacobi, and Cremona.

The department of physics, especially rich in recent contributions to the science of optics and of electricity.

Complete sets of *Berichte der Deutschen Chemischen Gesellschaft*, *American Chemical Journal*, and other valuable periodicals; a rare collection of books on the history of chemistry.

The full mineralogical and geological reports of Hayden and Powell. The latest contributions to the sciences of palaeontology, biology, botany, and comparative zoology.

A collection of elegant and rare books on art, especially on its history, and in archæology and architecture, that might do credit to older universities.

The choicest editions of the masterpieces of literature in all languages, including interesting works on Oriental literature.

A well selected historical library, rich in Grecian and Roman history.

For the current year, the files are supplied with the following periodicals:

American Chemical Journal,	Fortnightly Review,
American Economist,	Forum,
American Journal of Science,	Harper's Magazine,
American Naturalist,	Johns Hopkins Circulars,
American Journal of Mathematics,	Journal of Speculative Philosophy,
Andover Review,	Journal of the Royal Microscopical Society,
	Library Journal,

American Journal of Philology,	Musical Record,
Atlantic Monthly,	Magazine of Western History,
Berichte der Deutschen Nation,	
Chemischen Gesellschaft,	New Englander,
Blackwood's Magazine,	New England Journal of Education,
Boulder Herald,	Nineteenth Century,
Boulder News,	North American Review,
Century,	Our Day,
Chicago Tribune,	Popular Science Monthly,
Classical Review,	Portfolio, Hamerton's,
Colorado School Journal,	Quarterly Review,
Contemporary Review,	Rocky Mountain News,
Denver Republican,	Scribner's Magazine,
Deutsche Rundschau,	Universal Review,
Edinburgh Review,	Western Architect,
Education,	Westminster Review.
Fliegende Blaetter,	

In the Medical reading room are the following:

American Journal of Obstetrics.	Medical Standard.
Annals of Surgery.	Therapeutic Gazette.
Medical Record.	Times and Register.

The library is open every day, except Sunday, from 8:15 A. M. to 4:30 P. M., continuously.

The rooms are well lighted and supplied with comfortable chairs and tables for the accommodation of readers.

A very simple decimal classification with relative location is employed.

The students have direct access to the shelves, and the librarian is always present to assist in an intelligent use of the books.

Every effort is made to develop scholarly instincts and that broad culture which personal acquaintance with books alone can give.

With the hearty cooperation of the members of the Faculty, the librarian seeks to inform students of the literature on any subject, and how to find it;—to make easily accessible all that the library contains.

## UNIVERSITY SCIENTIFIC SOCIETY.

This Society, established in 1888, consists of members of the Faculty, of such ladies and gentlemen in Boulder as are interested in scientific and philosophical research, and of such students in the Department of Philosophy and the Arts as may be recommended by their instructors. Regular meetings, open to the interested public as well as to all students, are held on each alternate Saturday evening of the school year, beginning promptly at eight o'clock. At these meetings special attention is given to new discoveries and to new interpretations of old facts. A complete list of the subjects which have been presented to the Society, taken from the minutes of the Society, is appended.

1. Prediction in Chemistry as Illustrated by the Filling of Gaps in the Periodic Law,

CHARLES S. PALMER.

2. Lockyer's New Meteoric Hypothesis,

W. J. WAGGENER.

3. A New Monotreme in Australia, JOHN GARDINER.

4. Dr. McKenzie's side of the Story,—A Review of Emperor Frederic's Case,.....L. M. GIFFIN.

5. Lichens—An Illustration of Symbiosis,

JOHN GARDINER.

6. Ethics, Outlined as a Department of Inductive Research,..... CHARLES CAVERNO.

7. The Nature and Musical Use of Rhythm,

C. H. FARNSWORTH.

8. Development of the Scientific Method in Philosophy,.....J. R. BRACKETT.

9. The Unit of Moral Force,....CHARLES CAVERNO.
10. The Place of Philosophy in Human Experience,..... C. E. LOWREY.
11. A New Model to Illustrate Diffraction,  
W. J. WAGGENER.
12. Extent of Political Economy as a Science,  
L. D. SYLE.
13. Professor Cajori's Tract on Infinite Series,  
IRA M. DELONG.
14. Stereo-Chemistry,.....CHARLES S. PALMER.
15. Suppose Ethics Compound,—What then?  
CHARLES CAVERNO.
16. The Origin of Roots,.....J. RAYMOND BRACKETT.
17. Hyper-Dimensional Space,....IRA M. DELONG.
18. 'Six o'clock Dinners,... ..L. M. GIFFIN.
19. Experiments of Hertz on Electrical Undulations,..... W. J. WAGGENER.
20. Truth as a Balance of Extremes,  
CHARLES E. LOWREY.
21. New Theories of the Nature of Harmony,  
C. H. FARNSWORTH.
22. Super-Heated Dry Air as a Treatment for Consumption,.....H. O. DODGE.
23. Electric Railroads,.....IRVING HALE.
24. Growth in Science and Decay in Statesmanship,.....O. F. A. GREENE.
25. White Blood Corpuscles,.....JOHN GARDINER.
26. Original Researches in the Nature of the Chemical Elements, ..... CHARLES S. PALMER.
27. Difficulties in Ethics,.....CHARLES CAVERNO.
28. Old and New Methods of Ore-Reduction in Gilpin County,.....H. M. HALE.
29. Ignatius Donnelly's Great Cryptogram,  
J. R. BRACKETT.
30. Scientific Hope-Whispers, I,...GEORGE WALLACE.
31. Physical and Organic Forces in Nature,  
JOHN F. STEWART.
32. Medical Jurisprudence,.....D. O'BRIEN.

33. Caverno's Book on Divorce, . . . . IRA M. DeLONG.
34. Divorce in Colorado, . . . . . S. A. GIFFIN.
35. Training the Hand for the Key-Board,  
C. H. FARNSWORTH.
36. Sach's History of Botany, . . . . . JOHN GARDINER.
37. Diffraction Gratings, I, . . . . . W. J. WAGGENER.
38. Scientific Hope-Whispers, II, . . . GEORGE WALLACE.

## LITERARY SOCIETIES.

The Philomathean Society is open to students of the Preparatory and Normal Departments, and has become a valuable means of discipline and culture.

The Bell Literary Society is supported by the students of the Department of Philosophy and the Arts; its exercises, consisting of original essays, orations, and debates, are of such a nature as to awaken enthusiasm and supplement the training of the class-room.

## THE PORTFOLIO.

The Portfolio, edited and managed by the students in the several departments of the University, is published monthly during the academic year.

## MUSIC.

Classes in sight singing are formed; and after training in part music, a chorus will be organized for the study of classical music.

## CHAPEL EXERCISES.

All students are required to assemble in the auditorium Monday mornings immediately after the first recitation. Religious services are held on four mornings of each week. They consist of singing, reading of the Scrip-



tures, and the recital of the Lord's Prayer. Attendance upon these services is optional.

The Students' Christian Association is open to members of all departments.

There are Baptist, Catholic, Christian, Congregational, Episcopal, Methodist, Presbyterian, Second Advent, and Unitarian churches in town.

### EXPENSES AND INFORMATION.

There is no charge, to residents of Colorado, for tuition.

Every student, before being admitted to any department of the University, must pay a matriculation fee. This fee, for residents of Colorado, is five dollars; for all others, ten dollars. The payment of this fee once, entitles the student to permanent membership in the University.

In addition to the matriculation fee, every student must pay an annual reading room fee of one dollar.

Non-residents of Colorado pay an annual fee of fifteen dollars in addition to the above mentioned fees.

Students in the Medical Department, who are residents of Colorado, pay an annual fee of ten dollars; non-residents pay twenty dollars.

The graduation fee of the Medical Department is twenty dollars.

All of the above mentioned fees must be paid in advance, and no deductions will be made for absence or late entrance. No fees will be returned after an attendance of one week.

Students who pursue laboratory courses of study will pay for such material and apparatus as they consume, therefore the annual expenses will depend upon the care and economy of each individual. For the student in chemistry, the expense should not exceed ten dollars, and for the student in biology, five dollars.

Good board can be obtained in private families at prices ranging from \$4.50 upwards. By forming clubs,

the expenses of living may be reduced to a cost of \$2.50 per week each.

Rooms, furnished or unfurnished, may be rented at prices ranging from \$4 to \$12 a month.

Student living on the campus are subject to the following *fixed rates*:

Table board, fuel, light, and unfurnished room, per	
week,	\$3.75.

For unfurnished room, fuel, and light,	
per month,	3.50.

Board and room rent must be paid in advance for each month.

There is no charge for the use of bath-rooms or laundry.

Two hundred dollars a year will pay all University bills and necessary expenses for board, fuel, lights, washing, books, and stationery.

Rooms will be assigned the first day of the fall term. Applications may be made at any time. Storage will be provided for furniture, during the summer vacation, free of charge.

Students who have engaged rooms must occupy them as early as the first day of the term, or present satisfactory excuse for absence to the President; otherwise they will be considered as not engaged.

Occupants of rooms will be held responsible for any damage done while in their possession. Before taking possession each will deposit with the President ten dollars. This money will be returned to him upon vacating the room, less such portion thereof as may have been used, or may be needed, for repairing any damage to the premises that may have been, or should be, assessed upon him.

Facilities for obtaining furniture and supplies are abundant in Boulder, and the rates are reasonable.



## GOVERNMENT.

The discipline of the school is administered with firmness and impartiality. It aims to develop self-control, manliness, and a generous public spirit; to induce such a high moral sentiment as will be in itself a powerful governing force in the school. In no manner should the University be regarded as a reform school. All who partake of its advantages are expected, as a matter of honor, to be loyal to its government, and to cheerfully and faithfully perform the duties assigned them. The well-being of the University, and of all faithful workers therein, demands that none should be retained here who are unwilling to be subjected to wholesome discipline. Each of the dormitories is under the personal supervision of a member of the Faculty.

## DEPARTMENTS.

The departments of instruction in the UNIVERSITY OF COLORADO are comprehended under four divisions as follows:

The Department of PHILOSOPHY AND THE ARTS.

The Department of MEDICINE.

The NORMAL SCHOOL.

The PREPARATORY SCHOOL.

The department of PHILOSOPHY AND THE ARTS includes courses leading to the degrees of Bachelor of Arts, Bachelor of Philosophy, Bachelor of Science, Bachelor of Letters, Master of Arts, and Master of Science.

DEPARTMENT

OF

PHILOSOPHY AND THE ARTS.

# FACULTY.

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HORACE M. HALE, LL. D.,  
PRESIDENT.

MARY RIPPON.

I. C. DENNETT, Ph. D.

J. RAYMOND BRACKETT, Ph. D.

W. J. WAGGENER, A. M.

CHARLES SKEELE PALMER, Ph. D.

IRA M. DeLONG, A. M.

JOHN GARDINER, B. Sc.,  
SECRETARY.

MAURICE E. DUNHAM, A. M.

## REQUIREMENTS FOR ADMISSION.

Students are admitted to the courses leading to the bachelor's degree, on the certificate of the Preparatory School, or upon satisfactory examination in each of the required subjects.

Students passing an examination in 70 per cent of the branches required, may by vote of the Faculty, be admitted to courses leading to the bachelor's degree, conditioned in the branches in which they are deficient. Conditioned students will make up deficiencies by recitation in the Preparatory School of the University. Students are not admitted to full standing in the Department of Philosophy and the Arts until all conditions are removed.

Examinations will be held some time in June, by members of the Faculty, in Denver, Colorado Springs, Pueblo, Trinidad, Alamosa, Durango, Ouray, Silverton, Montrose, Grand Junction, Leadville, and Aspen, and in such other places as shall be necessary. Application for holding special local examinations should be made no later than May 1st. The time and place of such examinations will be announced in the local papers. Students are received from the high schools of East and West Denver upon principal's certificate. The same courtesy will be extended to other schools that establish and faithfully carry out a course of study recommended by the High School and College Section of the State Teachers' Association.

I. CANDIDATES FOR THE DEGREE OF  
BACHELOR OF ARTS.

Candidates for courses leading to the degree of Bachelor of Arts, will be examined in the following subjects:

1. LATIN.—Elements of Grammar; reading at sight; the translation into Latin of simple English sentences;

Latin lessons, *Bellum Helvetium*; *Cæsar*, five books; *Cicero*, six orations; *Virgil*, eight books.\*

2. GREEK.—*Hadley's* or *Goodwin's* Greek Grammar; *Xenophon's* *Anabasis*, three books; *Homer's* *Iliad*, two books; reading at sight; composition; antiquities.

3. HISTORY AND GEOGRAPHY.—*Outlines of General History*, Greek and Roman History and Geography connected with the study of the Greek and Latin authors read.

4. GERMAN.—*Otto's* German Grammar; *Brandt's* Reader.

5. MATHEMATICS. — *Wentworth's* School Algebra; *Hill's* Geometry for Beginners; *Wentworth's* Plane Geometry; Solid and Spherical Geometry.

6. ENGLISH.—*Meiklejohn's* English Language.

\*The pronunciation of Latin used in the University is as follows:

#### VOWELS.

<i>Long.</i>	<i>Short.</i>
<i>a</i> , as in <i>father</i> .	<i>a</i> , as in <i>father</i> , but shorter, (not as in <i>hat</i> ).
<i>e</i> , as in <i>they</i> .	<i>e</i> , as in <i>met</i> .
<i>i</i> , as in <i>machine</i> .	<i>i</i> , as in <i>pity</i> .
<i>o</i> , as in <i>go</i> .	<i>o</i> , as in <i>for</i> (not as in <i>cot</i> ).
<i>u</i> , as <i>oo</i> in <i>too</i> .	<i>u</i> , as in <i>pull</i> (not as in <i>but</i> ).

#### DIPHTHONGS.

In pronouncing the diphthongs the sound of each vowel is preserved.

<i>ae</i> , as <i>ay</i> in <i>ay</i> .	<i>eu</i> , nearly as <i>u</i> in <i>use</i> .
<i>au</i> , as <i>ow</i> in <i>power</i> .	<i>u</i> , in <i>ua</i> , <i>ue</i> etc., as <i>w</i> .
<i>oe</i> , as <i>oi</i> in <i>oil</i> .	<i>ei</i> , as in <i>rein</i> .

#### CONSONANTS.

<i>c</i> , as in <i>can</i> .	<i>s</i> , as in <i>sin</i> .
<i>ch</i> , as <i>k</i> .	<i>t</i> , as in <i>tin</i> .
<i>g</i> , as in <i>gun</i> .	<i>v</i> , as English <i>w</i> .
<i>j</i> , as <i>y</i> in <i>young</i> .	Other consonants, as in English.

## II. CANDIDATES FOR THE DEGREE OF BACHELOR OF PHILOSOPHY.

Candidates for courses leading to the degree of Bachelor of Philosophy will be examined on the subjects included in the Latin Preparatory Course, or on suitable

equivalents. Students from schools where Psychology and German are not taught may substitute for these subjects one year in English Literature and one-half year in Mediæval History.

### III. CANDIDATES FOR THE DEGREE OF BACHELOR OF SCIENCE.

Candidates for Courses leading to the degree of Bachelor of Science will be examined on the following subjects:

1. MATHEMATICS.—Same as under I, 5.
2. HISTORY.—Outlines of General History.
3. GERMAN.—Same as under I, 4.
5. LATIN.—Two years of Latin, including Grammar, *Bellum Helvetium*, four books of Cæsar, and three orations of Cicero.
6. PHYSICS.—Gillet and Rolfe's Natural Philosophy, or the equivalent with experiments.
7. CHEMISTRY.—Remsen's Inorganic Chemistry, (advanced course), or Richter's Inorganic Chemistry; elements of Qualitative Analysis.
8. BIOLOGY.—Huxley and Martin's Elementary Biology, or equivalent.
9. ENGLISH.—Meiklejohn's English Language.
10. HISTORY.—Outlines of General History.

### IV. CANDIDATES FOR THE DEGREE OF BACHELOR OF LETTERS.

This examination is offered for students who come from schools where foreign languages are not taught.

Candidates for courses leading to the Degree of Bachelor of Letters will be received after passing a satisfactory examination in the following requirements:

1. ENGLISH.—Parsing; Analysis; Hart's Rhetoric, complete; Kellogg's English Literature; three years' work.
2. MATHEMATICS.—Arithmetic; Elementary Algebra; Plane Geometry.



3. HISTORY, GEOGRAPHY, ETC.— Outlines of General History; History of England; Civil Government; Houston's Physical Geography; two and a half years' work.

4. SCIENCE.—(a) PHYSIOLOGY.—Martin's Briefer Course; one-half year's work.

(b). PHYSICS.—Elements of Natural Philosophy; one year's work.

Candidates will be credited for advanced standing with any work, in addition to the above, on which they pass a satisfactory examination.

## COURSES OF STUDY.

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The various branches taught are offered in *courses of study*. A *full course of study*, as here used, means five exercises a week throughout a semester. The student is required to complete twenty-six full courses in order to obtain the recommendation of the Faculty for a degree. Some are prescribed, but sufficient option is given for the student to direct his training in accordance with his needs and capability.

Students who are candidates for a degree must take the prescribed work and select, in addition, courses enough to make up the full amount of work required.

Persons over twenty-one years of age, not candidates for a degree, may, by a vote of the Faculty, be admitted as special students, after having satisfied, by examination or otherwise, the members of the Faculty whose courses they desire to attend, that they are fully qualified to enter upon such work. No student who has been enrolled in preparatory classes will be accepted as a special student until he has been honorably dismissed from such classes. Special students are required to pay the matriculation and library fees, and are duly enrolled.

No student may take more than fifteen exercises a week except by vote of the Faculty.

No student will be permitted to change his course, or drop any study, except by vote of the Faculty, and then only at the beginning of a semester.

All prescribed courses will be given, but instructors may decline to give courses to fewer than five applicants. It is intended, however, that each student shall have an opportunity, before taking his degree, to pursue any course he may desire.

## COURSES FOR THE BACHELOR'S DEGREE.

## LATIN.

COURSE.		
1.....	Livy (Book I. and portions of XXI, XXII); Roman History.....	Full Course.
2.....	Literature of the Augustan Age with special reference to Tibullus, Propertius, Horace. { Pre-Augustan Literature with special reference to Cicero's Letters and De Immor- talitate; Lectures on Ancient Philosophy; Supplementary Reading—De Senectute, De Amicitia.....	Full Course.
3.....	{ Literature of Post-Augustan Age with special reference to Juvenal; Tacitus,—Germa- nia and Agricola; Supplementary Reading,—Satires of Horace, Histories of Tacitus. {	Full Course.
4.....	{ Literature of the Republic with special reference to Plautus, Terence, Lucretius, and Catullus.....	Full Course.
5.....	Roman History,—Mommsen.....	Full Course.
6.....	Latin Prose.....	Full Course.
7.....	Twenty Lectures in Roman Archaeology.....	Four-fifths Course.
8.....		One-fifth Course.

Courses 1, 2, 3, and 4, are required in the order of the numbers.

## COURSES FOR THE BACHELOR'S DEGREE.

## GREEK.

COURSE.	FIRST SEMESTER, 1891—1892.	
1.....	{ Homer (Odyssey, Books I.-VI); Herodotus (Selections from Books VI and VII); { Greek Composition.....	Full Course.
3.....	Demosthenes (Philippics).—Sophocles (Antigone).....	Full Course.
5.....	Aristophanes (Frogs).....	Three-fifths Course.
7.....	Thucydides (Selections from Books VI and VII).....	Two-fifths Course.
	SECOND SEMESTER, 1891—1892.	
2.....	Xenophon (Memorabilia); Euripides (Alcestis); Reading at Sight.....	Full Course.
4.....	Plato (Apology and Crito);—Aeschylus (Prometheus).....	Full Course.
6.....	Lyric Poets.—Lucian; Elegiac and Iambic Poets.....	Three-fifths Course.
8.....	Plutarch.....	Two-fifths Course.



## COURSES FOR THE BACHELOR'S DEGREE.

## GERMAN.

COURSE.	FIRST SEMESTER.	
19.....	Beginning German,—Whitney's Grammar and Reading.....	Full Course.
20.....	German Plays, Tales and Conversation.....	Four-fifths Course.
25.....	Modern Fiction.....	Three-fifths Course.
21.....	German Lyrics and Ballads.....	Three-fifths Course.
121.....	German Prose Composition.....	Three-fifths Course.
	SECOND SEMESTER.	
23.....	German Historical Dramas.....	Four-fifths Course.
26.....	Hermann and Dorothea; Nathan der Weise.....	Two-fifths Course.
22.....	Goethe's Faust.....	Three-fifths Course.
24.....	Literaturgeschichte.....	Full Course.
122.....	German Prose Composition.....	Two-fifths Course.

Courses 21, 24, 121, and 122 will be given at the option of the instructor.

COURSES FOR THE BACHELOR'S DEGREE.  
FRENCH.

COURSE.	FIRST SEMESTER.	
27.....	Beginning French,—Whitney's Grammar.....	Full Course.
29.....	Prose Authors.....	Full Course.
31.....	Litterature Francaise.....	Two-fifths Course.
33.....	Alfred de Vigny's Cinq Mars.....	Two-fifths Course.
28.....	La Fontaine's Fables; Modern Comedies.....	Full Course.
30.....	Athalie; L'Avare; Le Cid.....	Full Course.
32.....	Litterature Francaise.....	Two-fifths Course.
34.....	Prose of the Nineteenth Century.....	Three-fifths Course.

Courses 27 and 28 are offered for the year 1889-90, and for every second year thereafter; courses 31, 34 at the option of the instructor.



## COURSES FOR THE BACHELOR'S DEGREE.

## MATHEMATICS.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
1.....	Higher Algebra.....	Full Course.....	Bowser, Olney, Todhunter.
3.....	Plane Analytics.....	Full Course.....	Wentworth, Olney, Newcomb, Salmon.
5.....	Integral Calculus.....	Full Course.....	Taylor, Byerly, Williamson.
6.....	Determinants.....	Threes-fifths Course.....	Hanus, Peck, Scott.
SECOND SEMESTER.			
2.....	Trigonometry.....	Full Course.....	Wentworth, Wells, Chauvenet.
4.....	Differential Calculus.....	Full Course.....	Taylor, Byerly, Rice & Johnson.
7.....	Solid Analytics.....	Full Course.....	Aldis, Frost.
8.....	Quaternions.....	Full Course.....	Hardy, Tait, Hamilton.
9.....	History of Mathematics.....	Full Course.....	Ball, Gow, Allman.

Courses 1, 2, 3, 4, must be taken in the order of their numbering.

## COURSES FOR THE BACHELOR'S DEGREE.

## NATURAL PHILOSOPHY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
1.....	General Physics,—Lectures, Recitations, and Laboratory work.....	Full Course.	Daniell, Glazebrook & Shaw Jamin, Stewart & Gee, Pickering, Witz, Wuelner.
3.....	Mechanics .....	Three-fifths Course.	Todhunter, Tait and Steele.
5.....	Geometrical and Physical Optics, Lec- tures and Laboratory work.....	Full Course.	Parkinson, Heath, Jamin, Mueller, Airy.
	SECOND SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
2.....	General Physics,—Lectures, Recitations, and Laboratory work.....	Full Course.	Maxwell, Mascart and Joubert, Ayrton, Stewart & Gee, Kempe.
6.....	Electricity,—Lectures and Laboratory work.....	Full Course.	
4.....	Mechanics .....	Two-fifths Course.	
Courses 1 and 2 should be completed before 5 and 6 are taken.			

## COURSES FOR THE BACHELOR'S DEGREE.

## ASTRONOMY AND SURVEYING.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
4.....	Descriptive Astronomy,—Readings, Observations, and Lectures..... Practical Astronomy..... Plane Surveying.....	Full Course.	Chambers.
3.....		Full Course.	Loomis, Chauvenet, Doolittle.
1.....		Full Course.	Carhart, Van Amringe, Johnson.
	SECOND SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
2.....	General Astronomy.....	Full Course.	Newcomb & Holden, Young.
5.....	Theoretical Astronomy.....	Full Course.	Watson.
6.....	Geodesy.....	Full Course.	Gore, Clarke.

## COURSES FOR THE BACHELOR'S DEGREE.

## BIOLOGY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
1.....	General Biology.	Full Course.	Huxley & Martin, Howe's Atlas, Brooks.
3.....*	General Zoology.	Full Course.	Bell, Claus, Huxley, Wiedersheim,
5.....*	General Botany.	Full Course.	Bessey, Gray, Coulter, Goebel, DeBary, Sachs.
7.....†	Comparative Osteology.	Two-fifths Course.	Huxley, Flower, Parker & Bethany.
	SECOND SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
2.....	Course 1 continued.	Full Course.	As for Course 1.
4.....	Course 3 continued.	Full Course.	As for Course 3.
6.....	Course 5 continued.	Full Course.	As for Course 5.
8.....‡	Comparative Embryology.	Three-fifths Course.	Balfour, Haddon,
9.....‡	Vegetable Histology and Physiology.	Three-fifths Course.	Vines, Bower, Sachs, Goodale.

\*Applicants for either of these courses ought to have completed courses 1 and 2.

†Applicants for either of these courses must have completed courses 3 and 4.

‡Applicants for this course must have completed courses 5 and 6.

COURSES FOR THE BACHELOR'S DEGREE.  
MINERALOGY AND GEOLOGY.

COURSE.	FIRST SEMESTER.		TEXT AND REFERENCE BOOKS.
1.....	Crystallography, Mineralogy, Petrography, etc.	Students must have had Elementary chemistry and physics.	Williams, Baerman, Dana, Groth, von Lasaulx,
	SECOND SEMESTER.		
2.....	Petrography continued. Inorganic and General Geology.	Students must have had course 1. Three to Five-fifths.	Rosenbusch, Dana, Geikie, Lyell, Prestwich.
	FIRST OR SECOND SEMESTER.		
3.....	{ Continuation and Extension of course 1.	Two to Five-fifths.	
4.....	{ Continuation and Extension of course 2.	Two to Five-fifths. Students must have had courses 2, 3, 5.	Dana, Nicholson, Zittel, U. S. Geol. Survey Reports, etc.
5.....	Palaeontology.	Three to Five-fifths Course	

## COURSES FOR THE BACHELOR'S DEGREE.

## CHEMISTRY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS AND REFERENCE BOOKS.
1.....	Elementary and General Chemistry..... Analysis,—Qualitative, etc.,..... Organic Chemistry..... Comparative Chemistry.....	Four-fifths or Five-fifths.	Rensen (Advanced), Volhard, etc. Stoddard, Prescott, Fresenius, Noyes. Rensen (Organic), Richter, etc. Muir.
7.....		From Two to Five-fifths.	
3.....		" Three to Five-fifths.	
5.....		" " Five-fifths.	
	SECOND SEMESTER.		
2.....	Course 1 continued..... Course 7 continued,—Quantitative..... Course 3 continued,—Organic..... Course 5 continued,—Comparative.....	Four-fifths or Five-fifths.	Rensen, Muir, Richter, Stoddard. Fresenius. Rensen, Richter, Roscoe and Schorlemmer. Muir.
8.....		From Two to Five-fifths.	
4.....		" Three to Five-fifths.	
6.....		" " "	
	FIRST OR SECOND SEMESTER.		
11.....	Advanced Quantitative Analysis..... Advanced Organic Chemistry..... Historical Chemistry..... Thermo-Chemistry..... Advanced Theoretical and Gen. Chemistry..... Spectral Analysis.....	Three to Five-fifths.....	Richter, Roscoe and Schorlemmer, Journals. Ladenburg, Meyer, Kopp, Journals. Muir, Naumann, Thomson, Berthelot. Muir, Ostwald, Rensen. Schellen, Vogel, Konkoly, Watts.
10.....		" " "	
12.....		Two-fifths or Five-fifths.	
13.....		" " "	
9.....		" " "	
14.....		" " "	

COURSES FOR THE BACHELOR'S DEGREE.  
POLITICAL ECONOMY AND HISTORY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS.
1.....	{ General History of Europe from the Ref- ormation to the Congress of Vienna..... Political Economy.....	Two-fifths Course.	Fisher's Outlines.
3.....		Three-fifths Course.	Mill.
	SECOND SEMESTER.		TEXT BOOKS.
2.....	General History of Europe, (continued.)...	Three-fifths Course.	Fisher.
4.....	Political Economy.....	Two-fifths Course.	Mill.



## COURSES FOR THE BACHELOR'S DEGREE.

## PSYCHOLOGY.

COURSE.	FIRST SEMESTER.		TEXT BOOKS.
1.....	Logic, in outline.....	Two-fifths Course.	Jevons.
2.....	Psychology.....	Three-fifths Course.	Baker, Porter.
	SECOND SEMESTER.		TEXT BOOKS.
3.....	Moral Philosophy.....	Two-fifths Course.	Calderwood.
4.....	Introduction to Philosophy of Kant.....	Three-fifths Course.	Morris's Kant.

## COURSES IN GREEK.

The courses include representative masterpieces of Greek literature illustrating:

- |                               |                |
|-------------------------------|----------------|
| 1. Epic Poetry,               | 6. History,    |
| 2. Elegiac and Iambic Poetry, | 7. Oratory,    |
| 3. Lyric Poetry,              | 8. Philosophy, |
| 4. Tragedy,                   | 9. Rhetoric,   |
| 5. Comedy,                    | 10. Biography. |

The prescribed work for the first year (two courses) is largely directed toward cultivating the ability to read accurately, and at sight. This power once acquired, the student's attention is directed to literary criticism. In the study of the poets, the structure of the poems is carefully analyzed, the rhythm learned, poetic words, arrangement and forms noted; in that of the historians, the leading events in Greek history are critically considered; in that of the orators, the thoughts as related to the history of a period is dwelt upon; in that of the philosophers, Greek philosophy is made prominent.

Lectures on the respective branches of Greek literature accompany the study of a given author.

A collection of several hundred photographs, of much value to the student as illustrating Greek Art, is connected with this department. The University Library has a valuable collection of Greek works and books of reference to which the student has access.

## COURSES IN MATHEMATICS.

The schedule of courses offered in this department includes both those courses which are required for graduation and those which may be elected. The mathematical requirements for graduation are given on subsequent pages. Within the limitations here stated, undergraduates may, subject only to their fitness for the work, elect any course contained in the schedule. It is however desirable that these courses should be taken in the order of their numbers.

A mathematical library, containing the leading works of American and foreign authors, is open for the use of all students. It now numbers 327 volumes.

It is usually possible to provide those who elect surveying with drafting instruments for office work as well as with compass, transit, level, and plane table for field work. Students are in all cases held responsible for the care of such instruments as they may use.

### COURSES IN PHYSICS.

These courses are so arranged as at once to provide that general training in physics, which is required in a liberal education, and to lay the proper and necessary foundation for subsequent work in the other sciences. With both of these purposes in view, a special course in optics has been added, and large provision made for its experimental illustration. A special course in electricity is also offered, which is likewise thoroughly provided with working apparatus.

Every student taking any of the courses in physics is required, individually, to perform in the laboratory a large number of experiments, both qualitative and quantitative; such work occupies from one-third to one-half of the whole time devoted to this branch.

The work in the physical laboratory is intended to give the student skill in the manipulation of apparatus, and ability to find for himself many of the constants of nature.

#### SYNOPSIS OF THE LABORATORY WORK, COURSES 1 AND 2.

1. Length measurements, including the making of scales and verniers with the dividing engines.
2. Measurements of mass and density.
3. The pendulum, time measurement, measurement of the force of gravity, modulus of elasticity.
4. Mechanics of liquids and gases; the barometer; Boyle's law; specific gravities.
5. Determination of pitch; siren; determination of velocity of sound; measurement of length of sound-waves.

6. Thermometry; calorimetry, and coefficients of expansion.
7. Photometry.
8. Measurements of focal lengths of mirrors and lenses; of the magnifying powers of simple and compound microscopes, and of telescopes.
9. Special study of the microscope, and its use in measuring indices of refraction of transparent plates.
10. Measurement of indices of refraction in general.
11. Study of diffraction; measurement of wave lengths.
12. Study of double refraction and polarization.
13. Determination of magnetic moments, and of the strength of the earth's magnetic field.
14. Measurement of electrical resistance and potential.

The laboratory work will, in the main, conform to that described in Stewart and Gee's *Practical Physics*, with many added selections from Glazebrook and Shaw's *Practical Physics*, Pickering's *Physical Manipulation*, Ayrton's *Practical Electricity*, etc., together with original experiments.

The library is supplied with the leading English, German, and French treatises on the different branches of physical science.

## COURSES IN BIOLOGY.

The course in General Biology serves as a general introduction to the principles of biological science. It is required of those students who propose to study botany and zoology; but it is also a useful course for those who, not wishing to make a specialty of biology, nevertheless desire to obtain a general acquaintance with its elements. The general properties of living matter are considered and exemplified by a careful study of the anatomy and physiology of typical plants and animals, such as the frog, crawfish, snail, earth worm, fern and flowering plant.

The course in botany first treats of the anatomy, histology, and physiology of plants in general, and later, of the principles of their classification, following in outline Professor Bessey's larger text book.

The course in zoology treats of the classification and

comparative anatomy of the various groups of the animal kingdom, from the Protozoa to Man, on the basis of the most recent researches. This may be taken together with botany.

For students who wish to pursue more advanced work, two courses in zoology are offered, Comparative Osteology and Comparative Embryology. In the former, the osteology of the vertebrata is considered more in detail than can be done in the course in general zoology; in the latter, a careful study of the embryology of the chick is followed by a comparative study of the embryology of the various groups of animals.

For those who wish advanced work in botany, a course in Vegetable Histology and Physiology is offered. This involves the deeper questions of the structure and function of plants. The important matters still in dispute among botanists are fully and impartially discussed.

In all courses a large amount of laboratory work is absolutely required.

## COURSES IN CHEMISTRY.

No course in science deserves consideration which does not involve careful personal experimentation on the part of the student. Most of the following courses involve lectures and laboratory work with examination on both.

Courses 1 and 2 are primarily necessary for all students who take chemistry.

Courses 1 and 2 involve: The consideration of oxygen, hydrogen, chlorine, nitrogen, sulphur, carbon, and boron as typical elements; the comparative study of the principal non-metallic elements; the elements of chemical theory; the chief metals, etc. Full use is made of the Periodic Law in comparison and classification, but no theory is allowed to obscure the prime question: What are the facts? Towards the latter part of the year the student is led into the elements of qualitative analysis. One or two careful experiments in quantitative work are given near the opening, to impress strongly the invariable character of the laws of combination. In general, the important fact is continually emphasized that the chemistry of the surface



of our globe is the chemistry of oxygen, and the changes are rung on the theoretical and practical importance of the principles and processes of oxidation and reduction.

After courses 1 and 2, students may naturally take course 7 and 3, or a combination of these two.

Organic chemistry, though primarily the chemistry of carbon, in another and almost important sense, is the science of *Reaction Chemistry*, and no student who really wishes to become familiar with the nature and principles of modern chemistry, should stop short of the clean cut logic of this line of pure theory. The argumentation is fundamental for all chemistry. Most of the brilliant chemical work of the last three or four decades has been within the limits of organic chemistry, and this is another reason for the thorough development of this line of work. Distillation flasks, condensers, combustion furnaces, etc., together with general supplies and re-agents are provided for this work.

Courses 7 and 8 lead to a grasp of analysis, qualitative and quantitative, and there is a good supply of appropriate apparatus.

Among the special pieces of apparatus may be enumerated: a set of spectroscopes of the prism, direct-vision, and grating forms, for illustrating the chemical side of spectrum analysis; a laboratory microscope for the study of crystalline forms; two fine chemical balances, besides a fine large balance for coarse measurement with metric weights; a fine set of Hempel's burettes; Lunge's nitrometer; batteries and induction coils; ureometers; a Sprengle's pump; vapor density apparatus of Dumas, Hofmann, and Meyer; and a full supply of gravimetric and volumetric material. The laboratory is fully provided with assaying material and apparatus, but no attempt will be made to recognize this line of work otherwise than as a limited branch of quantitative analysis, *and no one will be allowed to take assaying who has not had courses 1, 2, 7, and 8.*

After courses 1, 2, 3, and 4, all students who desire to master the principles of chemistry should go on to courses 5 and 6.

These courses present a new feature in the growth of chemistry in that the principles developed from the special study of carbon are applied to the special and detailed consideration of the metals and non-metals largely by the comparative method. Course 9 is also an important feature of modern chemical physics and should be concluded in a complete chemical course.

## COURSES IN MINERALOGY AND GEOLOGY.

Students who wish this work, after having equipped themselves by, at least, elementary courses in physics and chemistry (including blow pipe analysis) will naturally take course 1. After a course of crystallography assisted by the hand study of the crystal models, and measurements by both the hand and the Wollaston model and the goniometer, and after a training in the physical properties of minerals from the study of the typical collection, the student will go on to course 2. This includes the study of the chief minerals systematically, and an introduction to the rock-forming minerals.

The laboratory is provided with a fine set of four hundred typical rock sections as described by Prof. H. Rosenbusch, of Heidelberg, Germany, and made by R. Fuess, of Berlin. There is also a fine petrographical microscope, made by Bausch & Lomb, provided with rotating stage, condenser, triple nose-piece with  $1\frac{1}{2}$ ,  $\frac{1}{2}$ , and 1.5 inch objectives, together with accessories, as quartz wedge, quarter wave plate, selenite plate, Bertrand lens, etc.

A fine lapidary's lathe with diamond-dust saw, and lap-wheels of steel and lead, for slicing and grinding sections of the local rocks, is also available.

Course 2 implies course 1, and involves a large amount of field work.

Course 5 implies courses 2 and also courses 3 and 4, and 5 and 6 in biology.

## REQUIREMENTS FOR GRADUATION.

Five exercises a week during a semester, whether in recitations, laboratory work, or lectures, constitute a *full course of study*. Students must satisfactorily complete *twenty-six full courses* to obtain the recommendation of the Faculty for a degree. It is not essential that the exercises constituting a *full course* shall be in one and the same branch of study, but the student's choice must be approved.



## THE DEGREE OF BACHELOR OF ARTS.

Of the twenty-six full courses which the student is required to complete to obtain the recommendation of the Faculty for the degree of Bachelor of Arts, sixteen are prescribed: four in Latin; four in Greek; two in mathematics; two in German; two in rhetoric; and two in oratory. All prescribed courses, except one in oratory, must be completed before any elective work can be taken.

All freshmen take Greek and oratory, and elect two of the three subjects; mathematics, German, Latin.

The subject omitted in freshman year must be taken in sophomore year; if thereby the student has four studies, sophomore Greek can be deferred until the junior year.

From the other courses offered, the student must select enough to make *twenty-six full courses*.

## THE DEGREE OF BACHELOR OF PHILOSOPHY.

Of the twenty-six full courses which the student is required to complete to obtain the recommendation of the Faculty for the degree of Bachelor of Philosophy, sixteen are prescribed: four in philosophy; four in Latin; two in German; two in mathematics; two in rhetoric; and two in oratory. Except by special permission, no elective work can be taken until the student has completed eight of the prescribed courses: two in mathematics; four in Latin; and two in German. From the remaining courses offered, the student must select and complete enough to make *twenty-six full courses*.

## THE DEGREE OF BACHELOR OF SCIENCE.

Of the twenty-six full courses which the student is required to complete to obtain the recommendation of the

Faculty for the degree of Bachelor of Science, twelve courses are fully, eight partially prescribed:

FRESHMAN YEAR.—Two in German; two in mathematics; two in chemistry or biology; one-fourth in oratory.

SOPHOMORE YEAR.—Two in French; two in physics, or mathematics; two in rhetoric; one-fourth in oratory. Students taking mathematics must take physics the following year.

JUNIOR YEAR.—Four in any two of the following: mathematics, physics, chemistry, and biology; one-fourth in oratory. Students must take physics if not taken before.

SENIOR YEAR.—Two in any one of the following: mathematics, physics, chemistry, and biology; one-fourth in oratory.\*

From the remaining courses offered, the student must select and complete enough to make *twenty-six full courses*.

## THE DEGREE OF BACHELOR OF LETTERS.

For the degree of Bachelor of Letters, seventeen courses are prescribed: one in mathematics; two in philosophy; two in English; four in French; four in German; two in rhetoric; and two in oratory. The work in mathematics, French, and German must be taken as soon as offered by the instructors. From the remaining courses offered, the student must select and complete enough to make *twenty-six full courses*.

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\*NOTE.—These courses are required in addition to what is implied in the Scientific Preparatory Course. In cases where students have been admitted on substitutes for any subjects in the Preparatory Course, the Faculty reserves the right to limit the number of electives.

In case a student takes extra work, such work must, as far as possible, cover the required subjects first.

Students are recommended to elect Astronomy, Geology, Psychology, and Political Economy.

## THE MASTER'S DEGREE.

Upon application to the President for the Master's degree, by a bachelor of any university or college, a special committee of the Faculty is appointed, under whose direction the candidate lays out his work and prepares his thesis. Such application must be accompanied by a statement of the branches of study to which the candidate desires to give special attention. Candidates for the Master's degree must attend upon at least ten exercises a week for one year.

## PARTIAL WORK.

Certificates of the following form are given to students who comply with the necessary requirements:

*University of Colorado.*

THIS CERTIFIES, That ———— has completed the prescribed course of study in ———— .

\_\_\_\_\_  
President.

These certificates are given on application, to all students who have satisfactorily completed regular courses, if the minimum required for a degree has been taken.

## RESIDENT GRADUATES.

Graduates of this, or of any other university or college, desirous of continuing their studies, may attend the lectures and use the library, laboratories, apparatus, and scientific collections, subject to such rules as the Faculty may establish. They may also receive private instruction from the professors in their respective departments.

## ADVANCED STANDING.

Students coming from institutions of like grade should bring certificates definitely stating the amount of work done in each subject. Real equivalents will be accepted. Graduation depends not upon the time spent, but upon the work actually accomplished.

Candidates for advanced standing who do not come from some other university or college, will be subject to an examination, not only in the subjects preparatory to admission to the University, but also in such undergraduate studies as they may ask to be credited with.

MEDICAL DEPARTMENT.

# FACULTY.

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HORACE M. HALE, LL. D., PRESIDENT.

JAMES H. KIMBALL, M. D. SECRETARY,

DENVER,

*Professor of Principles and Practice of Medicine, Materia Medica, and  
Therapeutics.*

H. W. McLAUTHLIN, M. D.,

DENVER,

*Professor of Obstetrics and Diseases of Women and Children.*

GEORGE CLEARY, M. D.,

DENVER,

*Professor of Ophthalmology, Otology, and Laryngology.*

L. M. GIFFIN, M. D.,

BOULDER,

*Professor of Anatomy and Physiology.*

CHARLES SKEELE PALMER, Ph. D.,

BOULDER,

*Professor of Chemistry.*

CHARLES RICHARD, M. D., U. S. A.,

MILITARY POST NEAR DENVER,

*Professor of Surgery and Hygiene.*

JOHN GARDINER, B. Sc.,

*Professor of Histology.*

J. M. NORTH, A. M., LL. B.,

BOULDER,

*Lecturer on Medical Jurisprudence.*

H. O. DODGE, M. D.,

BOULDER,

*Professor of Pathology and Clinical Medicine.*

J. T. ESKRIDGE, M. D.,

DENVER,

*Lecturer on Nervous and Mental Diseases.*

H. B. WHITNEY, M. D.,

DENVER,

*Lecturer on Physical Diagnosis*

G. B. BLAKE, M. D.,

BOULDER,

*Demonstrator of Anatomy.*

NEIL McPHATTER, M. D.,

DENVER,

*Lecturer on Abdominal Surgery.*



## ANNOUNCEMENT.

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The University of Colorado forms a part of the educational system of the State, and in accordance with the law of the State aims to complete the work of the public schools by offering to all persons of either sex, who are qualified for admission, a liberal education in the arts, the sciences, and literature, *without charge for tuition*.

The object of the establishment of this department is to secure a good medical education for those who may in the future be entrusted with the lives and with the health of our citizens. The Regents believe that the lives and health of the people of Colorado are not second in importance to any other interest that can be subserved by the State University. The State of Colorado, through this department of her University, offers no inducement to an easy graduation, but seeks to promote the best interest of the citizens of the State.

The University of Colorado, with its different departments, is established by the constitution of the State at the city of Boulder, which contains a population of nearly five thousand inhabitants, and is picturesquely situated at the mouth of Boulder Canon, only twenty nine miles distant from Denver, and easily accessible by rail from all parts of the State.

Persons suffering from pulmonary or malarial diseases are particularly benefited by a residence in Colorado, and many who have been compelled to relinquish their studies in the East and South have been able to pursue them here without interruption.

The terms, vacations, and recesses are the same as for the other departments of the University.

## REQUIREMENTS FOR ADMISSION.

All students entering this department will be required to pass a satisfactory examination in English grammar, arithmetic, geography, outlines of United States history and elementary physics. A student who presents a diploma or certificate of graduation from a literary or scientific college, or a high school, shall be exempt from this preliminary examination.

In English, students must be able to recognize the parts of speech, to apply the rules of syntax, to decline nouns and pronouns, to compare adjectives and adverbs, to conjugate verbs, to distinguish principal clauses from subordinate clauses, to determine whether a given clause is used substantively, adjectively or adverbially, and to write a short letter in due form with proper spelling, punctuation, and arrangement.

The examination in arithmetic will include common and decimal fractions, greatest common divisor, least common multiple, percentage, involution, and evolution.

Those proposing to enter at an advanced standing will also be examined in such studies as have been pursued previous to their admission.

## SEXES.

By the provision of the law for the government of the University, both sexes are received upon equal terms.

## REQUIREMENTS FOR GRADUATION.

1. The candidate must be of good moral character, and have attained the age of twenty-one years.

2. He must present evidence of having studied medicine for at least three years under the direction of a regular graduate or practitioner of medicine in good standing, and of having attended three full courses of lectures, the last of which must have been at this school.

3. He must write a thesis on a medical subject and present it to the secretary at least one month before the close of the session.

4. He must present evidence of having dissected the whole human body.

5. He must pass the required examination before the Faculty.

### FEES.

There is an annual matriculation fee of five dollars, and a demonstrator's fee of five dollars. Non-residents of Colorado pay an additional annual fee of ten dollars. The graduation fee is twenty dollars and is not returnable. All fees are payable in advance.

### COURSE OF STUDY.

The course of study consists of a graded course of three years, of nine months each, and the studies are so arranged as to be pursued in the following order:

*First Year*—Anatomy and dissection, chemistry, physiology, histology, materia medica, therapeutics, and medical botany.

*Second Year*—Anatomy and dissection, chemistry, physiology, materia medica, therapeutics, pathology, practice of medicine, surgery, obstetrics, physical diagnosis, ophthalmology, otology, and clinical medicine.

*Third Year*—Practice of medicine, surgery, obstetrics, diseases of women, diseases of children, therapeutics, ophthalmology, otology, laryngology, clinical medicine and surgery, clinical gynecology, hygiene and public health, medical jurisprudence, nervous and mental diseases, physical diagnosis, physiological and medical chemistry.

### CHEMISTRY.

It has been the custom, hitherto, in many schools to

offer courses in medical chemistry, without careful preliminary training in those rudiments on which are founded all branches of the science of chemistry. With the end in view of building up a thorough system of study, all medical students will take the following courses:

*First Year.*—Elementary and inorganic chemistry, fourteen lectures and six afternoons in the laboratory per month. Text-books,—Richter, Volhard, and Stoddard.

*Second Year.*—Organic chemistry, sixteen lectures and four afternoons in laboratory per month. Text-books,—Remsen and Richter.

*Third Year.*—Physiological chemistry. Text-books,—McKendrick. Urinary analysis, quantitative analysis of toxics, materia medica, foods, etc. These together will cover the year,—three lectures and one afternoon in the laboratory per week.

The Laboratories are provided with all essential modern apparatus, qualitative and quantitative. Each student pays for his own breakage, and for material consumed.

## HISTOLOGY.

Students will be required to take the course offered in practical histology. Each student will be entitled to a complete set of normal histological specimens for preservation, at the actual cost of glass, cabinets, reagents, etc., used. The histological laboratory is provided with a number of fine microscopes, which students are allowed to use. Free hand sketches of the objects studied are required, and students must pass an examination (theoretical and practical) at the end of the year. Instruction will also be given in methods of preserving, cutting and staining histological specimens.

The work in this department is thorough and practical, having for its aim the training of the student for future original work.

## PATHOLOGY.

Lectures on Pathology will begin with and continue throughout the course. They will be fully illustrated with microscopic specimens and clinical subjects.

## NERVOUS SYSTEM.

Dr. J. T. Eskridge will deliver a number of lectures upon cerebral localization and the diagnosis of mental disease.

## PRACTICAL ANATOMY.

Ample facilities will be afforded for the study of practical anatomy, and no charges will be made for anatomical material. The anatomical room will be open from November 1 to the close of the session, and at stated hours the Demonstrator will direct the prosecution of the work in this department.

All students are required to be present in the anatomical room during the attendance of the Demonstrator.

A dissection will be considered as completed only after the student has undergone a thorough examination on the part by the Demonstrator, and received the Demonstrator's certificate for the same.

## HOSPITAL AND CLINICAL INSTRUCTION.

A well arranged and commodious hospital, established on the University grounds, and under the charge of the Medical Faculty, is open to patients desiring treatment.

Clinical instruction, in the lecture room and at the bedside, will form a prominent feature of the course. The customary medical and surgical clinics will be held at the hospital. The bedside instruction will be thorough, under the guidance of the teachers.

The lectures are delivered in the building erected for the purpose upon the University grounds, which is com-



plete in every particular, with anatomical rooms, museum and general lecture rooms, conveniently located near the hospital, main University building, and dormitories. In the construction of this building especial attention has been given to light, ventilation, and heating.

#### LIBRARY.

The University Library, containing over 5,000 volumes, and the Reading Room, are open to medical students.

## SCHEDULE OF LECTURES

MONDAY.		TUESDAY.		WEDNESDAY.		THURSDAY.		FRIDAY.	
8:15 to 9:00	<i>Prof. Giffin,</i> Anatomy.	<i>Prof. Giffin,</i> Physiology.	<i>Prof. Giffin,</i> Anatomy.	<i>Prof. Giffin,</i> Physiology.	<i>Prof. Dennett,</i> Special Latin.				
9:30 to 10:00	<i>Prof. Dodge,</i> Clinical Medicine and Pathology.	<i>Prof. Cleary,</i> Ophthalmology.	<i>Prof. Palmer,</i> Inorganic Chemistry.	<i>Prof. Palmer,</i> Organic Chemistry.	<i>Prof. Kimball,</i> 10:00 to 11:00, Materia Medica and Therapeutics.				
10:00 to 12:40	<i>Dr. McPhatter,</i> Abdominal Surgery.  <i>Dr. Esbridge,</i> Nervous and Mental Diseases.	Otology.  Laryngology.  Rhinitology.	<i>Prof. Richard,</i> Surgery and Hygiene.	<i>Prof. McLaughlin,</i> Obstetrics, Diseases of Women and Children.	11:00 to 12:40, Theory and Practice of Medicine.				
2:00 to 4:00	<i>Prof. Gardiner,</i> Histology.	<i>Prof. Palmer,</i> Inorganic Laboratory.	<i>Prof. Palmer,</i> Organic Laboratory.	<i>Prof. Palmer,</i> Inorganic Laboratory.	<i>Prof. Gardiner,</i> Histology.				

After November 1, Practical Anatomy, Tuesdays and Saturdays, 2:00 to 4:00 — *Dr. Blake.*After February 1, Medical Jurisprudence, Wednesdays, 9:20 to 10:00 — *Judge North.*

After January 10, Hygiene



## LIST OF TEXT AND REFERENCE BOOKS.

*Chemistry*—Richter, Remsen, McKendrick.

*Anatomy*—Gray, Holden, Heath.

*Physiology*—Dalton, Yeo, Foster, Flint, Martin.

*Materia Medica*—H. C. Wood, Biddle.

*Surgery*—Erichsen, Bryant, Wyeth.

*Medicine*—Flint, Palmer, Loomis.

*Obstetrics*—Playfair, Cazeaux, Leishman, Lusk.

*Diseases of Women*—Thomas, Byford, Goodell, Tilt.

*Diseases of Children*—J. L. Smith, Ellis, Meigs and Pepper.

*Diseases of the Eye*—Wells, Berry, Williams, Noyes.

*Diseases of the Ear*—Roosa, Sexton, Burnett.

*Diseases of the Throat*—Bosworth, Mackenzie, Lennox Brown.

*Histology*—Klein, Miller, Schafer (in Quain's Anatomy).

*Pathology*—Billroth, Coates, Woodhead.

*Medical Jurisprudence*—Taylor, Wormley, Stille.

*Hygiene and Public Health*—Parkes, Buck.

*Botany*—Bessey, Gray.

*For Reference*—Thomas' Dictionary, United States and National Dispensatories.

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For further information, address the Secretary,

DR. J. H. KIMBALL,

Steele Block,

Denver, Colo.



NORMAL SCHOOL.

## NORMAL SCHOOL.

The object of this department is the training of teachers for the public schools of the State.

Among the advantages of having a normal department in connection with the State University are the following: the pupils come in contact with, and are aroused by, the university spirit; and have opportunities for better instruction; it permits a more extended course, and hence tends to raise the scholarship of the teachers in the State.

The course of study in this department is so framed as to embrace all branches, not taught in the common schools, in which candidates for first grade certificates must pass examination; and not only these but it includes studies peculiarly pedagogical and others that will enable graduates to qualify as high school teachers in any of the counties in the State.

### ADMISSION.

Applicants for admission to the Normal School will take the examination required for admission to the Preparatory School. Candidates for advanced standing must pass a satisfactory examination in preceding work. Examinations for admission will be held at the same time and place as for the Preparatory School.

### DIPLOMA OF THE NORMAL SCHOOL.

All students who complete the prescribed work will receive the Normal Diploma.

The State University, standing at the head of the public schools, is called to supply teachers for all grades, from the lowest to the highest. County superintendents and school boards are assured that the Faculty will recommend as teachers, only those who have made good records as students.

## COURSE OF STUDY.

The number opposite a branch of study indicates the number of recitations a week. For text-books etc., see Courses of Study in the Preparatory School, and in the Department of Philosophy and the Arts.

## FIRST YEAR.

LATIN.—Lessons.	-	-	-	5.
MATHEMATICS.—Elementary Algebra.	-	-	-	5.
HISTORY.—Outlines of General History.	-	-	-	3.
ENGLISH.	-	-	-	2.

## SECOND YEAR.

LATIN.—Cæsar.	-	-	-	-	5.
MATHEMATICS.—Geometry.	-	-	-	-	5.
PHYSICS.	-	-	-	-	5.

THIRD YEAR—*First Half-Year.*

LATIN OR BIOLOGY.	-	-	-	-	4.
MATHEMATICS.	-	-	-	-	3.
GERMAN.	-	-	-	-	4.
CHEMISTRY.	-	-	-	-	4.

*Second Half-Year.*

LATIN OR BIOLOGY.	-	-	-	-	5.
GERMAN.	-	-	-	-	5.
CHEMISTRY.	-	-	-	-	5.

FOURTH YEAR.—*First Half-Year.*

DIDACTICS.	-	-	-	-	3.
POLITICAL ECONOMY.	-	-	-	-	3.
PHYSICAL GEOGRAPHY.	-	-	-	-	5.
ELECTIVE.	-	-	-	-	4.
BOOK-KEEPING.	-	-	-	-	1.

*Second Half-Year.*

PEDAGOGICS.—School Management and School Law.	-	-	-	-	2.
PSYCHOLOGY.—Course 2.	-	-	-	-	3.
ELECTIVE.	-	-	-	-	5.
TRIGONOMETRY.	-	-	-	-	5.

Methods of instruction in the various branches are taught and exemplified throughout the course. Lectures on pedagogics and familiar talks, covering the various subjects connected with school work, will be given from time to time, in addition to the regular prescribed lectures of the fourth year of the course. Members of the class will be called upon to conduct recitations in the presence of a teacher, who will criticise and suggest.

During the first three years, students are required to pursue the course of reading recommended for preparatory students. During the fourth year, they are required to read White's *Pedagogics*, and Compayre's *History of Pedagogy*.

Instruction in elocution and vocal music will be offered, and attendance thereupon required, but such attendance cannot take the place of any of the fifteen exercises for each week.

# PREPARATORY SCHOOL.



## PREPARATORY SCHOOL.

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The object of this school is to prepare students for courses leading to the Bachelor's degree.

There are four courses of study:—The Classical, The Latin, The Latin Scientific, and The English Scientific. All of these courses lead to a Bachelor's degree.

By order of the Board of Regents, *all students in this department, entering upon any course, must take it as prescribed.* This order, however, does not prevent a student from taking such additional work as he may desire, and, in the opinion of the Faculty, is capable of accomplishing, nor does it prevent him from changing his course at the beginning of a semester, by and with the consent of the Faculty.

Persons over twenty-one years of age, not candidates for a degree, may, by vote of the Faculty, be admitted as special students, after having satisfied, by examination or otherwise, the members of the Faculty whose classes they desire to enter, that they are fully qualified for such work. No student who has been enrolled in any preparatory course will be accepted as a special student until he shall have been honorably dismissed from such course. Special students are required to pay the matriculation and library fees, and are duly enrolled.

### REQUIREMENTS FOR ADMISSION.

Applicants for admission to the Preparatory School must pass an examination in English grammar, arithmetic, geography, and United States history.

In English, students must be able to recognize the

parts of speech; to apply the rules of syntax; to decline nouns or pronouns; to compare adjectives and adverbs; to conjugate verbs; to distinguish principal clauses from subordinate clauses; to determine whether a given clause is used substantively, adjectively, or adverbially; and to write a short letter in due form with proper spelling, punctuation, and arrangement.

The examination in arithmetic will include common and decimal fractions, greatest common divisor, least common multiple, percentage, involution and evolution, and the *Metric system of weights and measures*.

Those proposing to enter at an advanced standing will also be examined in such studies as have been pursued by the class previous to their admission.

All applications for an increase or decrease of work must be made in writing to the President of the Faculty, and must allege one of the following reasons:

1. Physical or mental disability.
2. Ability to perform additional work.

If the first reason is alleged, the student will be directed to discontinue such work, *both in kind and amount*, and for such time, as the Faculty shall deem proper. If the second reason is alleged, the student's work will be increased if his standing in class justifies it. The Faculty has the right to increase or lessen a student's work at any time.

#### THE CERTIFICATE OF THE PREPARATORY SCHOOL.

A certificate of graduation will be given to students who complete any of the courses of study. On this certificate students are admitted to courses in the Department of Philosophy and the Arts, leading to the Bachelor's degree, or to the fourth year of the Normal Course, as specified under the titles of the respective courses.

## COURSES OF STUDY.

The number opposite a branch of study indicates the number of recitations a week.

## I. CLASSICAL COURSE.

Admitting to courses in the Department of Philosophy and the Arts leading to the degree, B. A., Ph. B. and B. L.

## FIRST YEAR.

LATIN.—Bellum Helvetium; Cæsar, one book.	-	5.
ALGEBRA.—Wentworth's School Algebra.	-	5.
HISTORY.—Swinton's Outlines.	- - -	3.
ENGLISH.—Meiklejohn's English Language.	-	2.

## SECOND YEAR

LATIN.—Cæsar, three books; Cicero, three orations.	- - - -	5.
GREEK.—Hadley's Grammar; Xenophon's Anabasis, Books I, II; Reading at Sight.	-	5.
GEOMETRY.—Hill's Geometry for Beginners; Wentworth's Plane Geometry.	-	5.

THIRD YEAR.—*First Half-Year.*

LATIN.—Cicero, three orations; Virgil, eight books; Prose Composition and Reading at Sight.	- - -	4.
GREEK.—Xenophon's Anabasis, Book III; Composition.	- - -	4.
GERMAN.—Otto's Grammar; Brandt's Reader.	-	4.
MATHEMATICS.—Solid and Spherical Geometry.	-	3.

*Second Half-Year.*

LATIN.—(continued.)	- - -	5.
GREEK.—Homer's Iliad, two books; Composition; Antiquities.	- - -	5.
GERMAN.—(continued.)	- - -	5.

## II. LATIN COURSE.

Admitting to courses in the Department of Philosophy and the Arts leading to the degrees Ph. B. and B. L.

## FIRST YEAR.

LATIN.—Bellum Helvetium; Cæsar, 1 book.	-	5.
ALGEBRA.—Wentworth's School Algebra.	-	5.
HISTORY.—Swinton's Outlines.	-	3.
ENGLISH.—Meiklejohn's English Language.	-	2.

## SECOND YEAR.

LATIN.—Cæsar, three books; Cicero, three orations.	- - - - -	5.
GEOMETRY.—Hill's Geometry for Beginners; Wentworth's Plane Geometry.	- -	5.
PHYSICS.—The Elements of Natural Philosophy; Chute's Practical Physics.	- - -	5.

THIRD YEAR—*First Half-Year.*

LATIN.—Cicero, three orations; Virgil, eight books; Prose Composition and Reading at Sight.	- - - - -	5.
GERMAN.—Otto's Grammar; Brandt's Reader.	-	4.
ENGLISH HISTORY.—Gardiner.	- - -	5.

*Second Half-Year.*

LATIN.—(continued.)	- - -	5.
GERMAN.—(continued.)	- - -	5.
ENGLISH HISTORY.—Continued until March.	-	5.
PSYCHOLOGY.—March until June,—Baker's Elements.	- - - - -	5.

### III. LATIN SCIENTIFIC COURSE.

Admitting to courses in the Department of Philosophy and the Arts leading to the degrees B. S., Ph. B. and B. L., and to the fourth year of the Normal Course.

#### FIRST YEAR.

LATIN.—Bellum Helvetium; Cæsar, one book.	-	5.
ALGEBRA.—Wentworth's School Algebra.	-	5.
HISTORY.—Swinton's Outlines.	-	3.
ENGLISH.—Meiklejohn's English Language.	-	2.

#### SECOND YEAR.

LATIN.—Cæsar, three books; Cicero, three orations.	-	5.
GEOMETRY.—Hill's Geometry for Beginners; Wentworth's Plane Geometry.	-	5.
PHYSICS.—The Elements of Natural Philosophy; Chute's Practical Physics.	-	5.

#### THIRD YEAR —*First Half-Year.*

BIOLOGY.—Huxley and Martin.	-	4.
MATHEMATICS.—Solid and Spherical Geometry.	-	3.
GERMAN.—Otto's Grammar; Brandt's Reader.	-	4.
CHEMISTRY.—Remsen's Inorganic Chemistry, (Advanced); or Richter's Inorganic Chemistry; Elements of Qualitative Analysis.	-	4.

#### *Second Half-Year.*

BIOLOGY.—(continued.)	-	5.
GERMAN.—(continued).	-	5.
CHEMISTRY.—(continued).	-	5.

## IV. ENGLISH SCIENTIFIC COURSE.

Admitting to courses in the Department of Philosophy and the Arts, leading to the degree B. L.

## FIRST YEAR.

PHYSIOLOGY.—One half-year,—Martin's Human Body.	5.
CIVIL GOVERNMENT.—One half-year,—Fiske's Civil Government.	5.
ALGEBRA.—Wentworth's School Algebra.	5.
HISTORY.—Swinton's Outlines.	3.
ENGLISH.—Meiklejohn's English Language.	2.

## SECOND YEAR

ENGLISH HISTORY.—Until March,—Gardiner.	5
PSYCHOLOGY.—From March until June,—Baker's Elements.	5.
GEOMETRY.—Hill's Geometry for Beginners; Wentworth's Plane Geometry	5.
PHYSICS.—The Elements of Natural Philosophy; Chute's Practical Physics.	5.

THIRD YEAR.—*First Half-Year.*

BIOLOGY.—Huxley and Martin.	4.
MATHEMATICS.—Solid and Spherical Geometry.	3.
GERMAN.—Otto's Grammar; Brandt's Reader.	4.
CHEMISTRY.—Remsen's Inorganic Chemistry, (Advanced), or Richter's Inorganic Chemistry; Elements of Qualitative Analysis.	4.

*Second Half-Year.*

BIOLOGY.—(continued.)	5.
GERMAN.—(continued.)	5.
CHEMISTRY.—(continued.)	5.



Supplementary to all the courses, some readings in English are required:

*First Year.*—Hawthorne,—Selected Tales; Shakespeare,—Merchant of Venice; Bunyan,—Pilgrim's Progress.

*Second Year.*—Webster,—Speeches; Addison,—Selections from Spectator; Shakespeare,—Julius Cæsar.

*Third Year.*—Bacon,—Essays; Shakespeare,—Hamlet; Irving,—Sketch Book.



# CATALOGUE OF STUDENTS.

# DEPARTMENT

—OF—

## PHILOSOPHY AND THE ARTS.

### SENIORS.

NAME.	RESIDENCE.	COURSE.
BOYD, PSYCHE EUZELIA,	Greeley,	B. L.
HALL, HORACE CHARLES,	Valmont,	B. A.
INGRAM, EDITH EDNA,	Boulder,	B. A.
LYCAN, CORA EMMA,	Denver,	B. A.
MILLER, CHARLES FERDINAND,	Boulder,	B. A.
STERNBERG, GUY,	Boulder,	B. A.
WHITELEY, MARGARET HORTENSE,	Boulder,	B. A.
WILSON, HARRY NOBLE,	Raton, N. M.,	B. A.
WISE, LILLIAN RACHEL,	Boulder,	B. A. —9.

### JUNIOR.

BURGER, CHARLES ROLAND,	Boulder,	B. A. —1.
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### SOPHOMORES.

ANDREWS, CURTIS IRVING,	Boulder,	B. A.
ANDREWS, SUSIE MAY,	Boulder,	B. A.
BLUHM, CONRAD,	Boulder,	B. A.
BURGER, FRED WILLIAM,	Boulder,	B. A.
COFFIN, GENEVA,	Longmont,	Ph. B.
DARLEY, GEORGE SINCLAIR,	Fort Morgan,	B. A.

DURWARD, ALEXANDER,	Valmont,	B. S.
DURWARD, ARTHUR,	Valmont,	B. S.
HOGARTY, HATTIE CARR,	Greeley,	B. L.
HOGARTY, MAMIE TUTTLE,	Greeley,	B. L.
HOLDEN, DELOS,	Pueblo,	B. S.
INGRAM, EDWIN JOHN,	Boulder.	B. A.
MAXWELL, ORRILL MARIE,	Boulder,	B. A.
MUMPER, ABRAM LINCOLN,	Greeley,	B. L.
NIXON, JOHN C.,	Greeley,	B. L.
NORTH, PAUL MCCOY,	Boulder,	B. A.
PUTNAM, WESLIE WALLACE,	Greeley,	B. L.
WHITELEY, ZENA AGAR,	Boulder,	B. A.

—18.

## FRESHMEN.

GARDINER, WILLIAM,	Manchester, Eng.,	B. L.
GARRISON, ERNEST F.,	Aspen,	B. A.
HENRY, ALBERT THOMAS,	Boulder,	Ph B.
JOHNSON, ALTA,	Warren, Pa.,	B. S.
MCGINNIS, HARRY,	Boulder,	Ph. B.
MCINTOSH, WILLIAM EDWARD,	Boulder,	Ph. B.
PITZER, GRANT,	Boulder,	B. S.
ROGERS, ANDREWS BUELL,	Central City,	B. L.
SMITH, ALWYN CHARLES,	Sunshine,	B. S.

—9.

DEPARTMENT OF MEDICINE.

---

ARKINS, WILLIAM MAURICE,	Denver.
COMBS, MARTHA THOMAS,	Boulder.
EDMUNDSON, CHARLES L.,	Pueblo.
FISCHER, PETER W.,	Oceanus, N. Y.
FOREST, JAMES DAVID,	San Francisco, Cal.
FOREST, ROSE ANNA,	San Francisco, Cal.
HAYDEN, WILLIAM CHAUNCEY,	Mass.
HAYES, ANDREW,	Ireland.
JOHNSON, FRITHIOF J.,	Longmont.
JAMES, HOMER EDWIN,	Estes Park
KEABLES, ALONZO M.,	Alma
MAYO, NELLIE FRANCES	Iowa
MATHEWSON, EUGENE	Rhode Island.

# PREPARATORY SCHOOL.

---

## FIRST CLASS.

CARR, MARY EDITH,	Boulder.
FULLER, MAY RIDDING,	Boulder.
GREEN, LUCY ELIZA,	Boulder.
MCCALL, FRANC BURRELL,	Boulder.
MCClave, ADA GRACE,	Platteville.
MCClave, HATTIE GOODELL,	Platteville.
MONTGOMERY, NORTON MUNGER,	Hygiene.
PITZER, CLARA DELL,	Boulder.
STANTON, KATIE MITCHELL,	Boulder.
STODDARD, WILLIAM BULL,	Boulder.
VAN HORNE, JOHN CRITTENDEN,	Fort Russell, Wyo.
WILCOX, CHARLES HENRY,	Boulder.
WILSON, HELEN WINIFRED,	Raton, N. M.

—13.

## SECOND CLASS.

ANDREW, HENRY ORESTA,	Boulder.
AUSTIN, LILLIAN JANE,	Boulder.
BITZENHOFER, ELIZABETH,	Central City.
BURGER, WILLIAM HENRY,	Boulder.
CARNEY, PATRICK,	Ouray.
CHASE, EVA LOUISE,	Georgetown.
FLINTHAM, JOHN WEBER, JR.,	La Jara.
GAYLORD, LEWIS,	Grand Junction.
GIVENS, WELLINGTON,	Alamosa.
GOODELL, LILLIAN GRACE,	Boulder.

HUBBARD, JAMES ROBERT,	Boulder.
JONES, ARCHIE HULL,	Grand Junction.
KENNEDY, MORTON HERBERT,	Denver.
LAYTON, HARRY PHILLIPS,	Grand Junction.
MCCORY, MARY MAY,	Longmont.
NELSON, IVAN ELLSWORTH,	Grand Junction.
NEWCOMB, DANIEL EDGAR,	La Jara.
PEEPLER, EMMA VIOLA,	Durango.
	-18.

## THIRD CLASS.

ADAMS, MARTIN LUTHER,	Sigourney, Iowa.
ANDREWS, FRANCES RUTH,	Boulder.
BAILEY, EDNA JEANNETTE,	Boulder.
BARRY, THOMAS E.,	Boulder.
BOOTH, LOVELLA MALVANA,	Boulder.
CARLTON, JENNIE VIRGINIA,	Louisville.
CARLTON, SARAH ISABELLA,	Louisville.
CARR, BERYL,	Boulder.
CASE, EDGAR NORMAN,	Del Norte.
COAN, EDITH LANCASTER,	Boulder.
COPE, BERTHA EUGENIA,	Boulder.
COREY, MAY,	Leadville.
COULSON, HARRY STEWART,	Boulder.
CRANDALL, MERRITT JULIUS,	Boulder.
CRITCHLOW, OSCAR BENJAMIN,	Alamosa.
CROW, VILETTA,	Boulder.
DICKSON, NELDA,	Boulder.
EASLEY, CHARLES H.,	Golden.
ELLET, ALFRED SCARRITT,	Boulder.
GARRETT, JOHN JAMES TURNER,	Silver Plume.
GATES, MINNIE ANN,	Hebron.
GIGGEY, MYRTLE JULIA,	Boulder.
GIVENS, HOWELL,	Alamosa.
GOODAN, CLARENCE,	Eaton.
GRAYSON, CARRIE BELLE,	Boulder.
GREGG, MABEL ANNA,	Boulder.
HADLEY, MARTHA LEILA,	New Castle.

HAFEMEISTER, ELIZA HENRIETTA,	Aspen.
HAMM, WINNIE MARY,	Boulder.
HANKINS, LULU CHLOE,	Boulder.
HATFIELD, HATTIE BELL,	Semper
HENRY, BEULAH GENEVIEVE,	Boulder.
HENRY, LOUISE ESTELLA,	Ni-Wot.
HIXSON, HOWARD HARDEN,	Boulder.
HOCKING, MINA,	Boulder.
HOLSTEIN, CHARLES,	Boulder.
HOLZMAN, MINNIE,	Las Vegas, N. M.
INGRAM, ELNORA,	Boulder.
JOHNSON, ARTHUR CHILION,	Boulder.
KENDRICK, ADDIE AGATHA,	Boulder.
LEE, FRANKLIN IVAN,	Grand Junction.
LEONARD, MABEL BLANCHE,	Boulder.
LYTLE, ALICE MAY,	Boulder.
LITTLE, ERASTUS SILSBEE,	Boulder.
MORGAN, JESSE ROBERT,	Saguache.
NEIKIRK, LEWIS IRVING,	Boulder.
NILES, CLARA ELIZABETH,	Boulder.
ONEAL, CARRIE,	Saguache.
O'NEILL, JOHN RUSSELL,	Boulder.
PEEPLER, LEWIS BURRELL,	Boulder.
PERRYMAN FLOSSIE,	Boulder.
PHILIP, WILLIAM THOMSON,	Fort Lupton.
REA, DORA MAY,	Boulder.
ROBINSON, FRANCES ELMINA,	Boulder.
RULE, ALICE ELIZABETH,	Boulder.
SALISBURY, JOHN CHENOWETH,	Pueblo.
SHELDON, DANIEL WEBSTER,	Boulder.
SHERMAN, GEORGE THIEMAN,	Pueblo.
SHOTWELL, SUSIE,	Boulder.
SHUTE, PEARL AMANDA,	Boulder.
SMITH, ARCHIBALD,	Boulder.
SQUIRES, BLANCHE MIRANDA,	Boulder.
STANTON, MARY JESSIE,	Boulder.
STEVENS, SADIE,	Boulder.
TUNNELL, WARREN FALES,	Boulder.



TUNNELL, WILL LUTHER,

Boulder.

WALES, SARAH ETTA,

Boulder.

—37.

## SPECIAL STUDENTS.

BURDICK, ISAAC EDWIN,

Hotchkiss.

CARROLL, LEONA ALWOOD,

Boulder.

CORNELL, LAURA ELECTA,

Denver.

COWLES, MARY LOUISE,

Osceola, N. Y.

EARHART, MAMIE,

Boulder.

ELLIOT, LOUISE CATHERINE,

Denver.

FARNSWORTH, CHARLOTTE JOY ALLEN,

Boulder.

FAY, CHARLOTTE HOOKER, M. D.,

Springfield, Mass.

FULTON, HENRY,

Boulder.

GOODFELLOW, MARGARETA.

Fenton, Mich.

GREENMAN, ALFRED ALLEN,

Condersport, Pa.

HADLEY, ANNIE LAURIE,

New Castle.

LEWIS, MAGGIE THOMAS,

Boulder.

LIBBY, ALBERT ELLSWORTH,

Boulder.

MCCONNELL, CHARLES EDWIN,

Boulder.

MAXWELL, HELEN FRANC,

Boulder.

NEKIRK, FANNIE,

Boulder.

POTTER, CHARLES ARTHUR,

Boulder.

ROOT, BERTHA LUELLA,

Petoskey, Mich.

ROOT, EDITH LEONI,

Petoskey, Mich.

TAYLOR, MARTHA DICKENSON,

Ann Arbor, Mich.

WILDER, FLORENCE,

Boulder.

ZULCH AMALIE,

Boulder.

ZULCH, GUSTAVUS, M. D.,

Boulder

—24.

# SUMMARY.

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## DEGREES CONFERRED.

---

'1882.

HENRY ALEXANDER DRUMM, A. B.

W. E. HAMILTON, D. D.

OSCAR EUGENE JACKSON, A. B.

JAMES IRVIN McFARLAND, A. B.

JOHN JULIAN MELLETTE, A. B.

HAROLD DAVID THOMPSON, A. B.

RICHARD HENRY WHITELEY, JR., A. B.; A. M., 1887.

1883.

ERNEST MONDELL PEASE, A. B.; A. M., 1835.

TIMOTHY WILLIAM STANTON, B. S.

1884.

BENJAMIN LOUIS HOLSTEIN, B. S.

1885.

HENRY CARTER EVANS, M. D.

HARRISON EDWARD STROUD, M. D.

1886.

GUSTAVE BEAUREGARD BLAKE, M. D.

HOLLIS ILLSEY BRAGDON, M. D.

FREDERICK LINCOLN CHASE, A. B.

VICTOR IRVIN NOXON, B. S.

CLARENCE HARLOW PEASE, B. S.

JUDSON ROWLAND, B. L.

HELEN FLORENCE TYLER, A. B.

EDWARD CORNING WOLCOTT, A. B.

## 1887.

JACOB CAMPBELL, M. D.

SILAS EDWARD PERSONS, A. M. ; A. B., Hamilton College, '81.

CHARLES HERBERT PIERCE, A. B.

JENNIE SEWALL, A. B.

## 1888.

ELMER E. CUMMINGS, M. D.

MARY BALL JOHNSON, B. A.

EDWARD COOK MASON, B. A.

LAMBERT STERNBERG, B. S.

GUY VAN GORDER THOMPSON, B. A.

## 1889.

HELEN BEARDSLEY, B. A.

IRVIN EDMUND BENNETT, M. D.

AARON GOVE, LL. D. ; A. M. Dartmouth 1878.

WILLIAM CEPHAS HOUSEL, B. A. ; B. S., Northern Illinois College, 1883.

EDWARD TRUMBULL LEE, D. D. ; B. A., Williams College ; B. D., Union Theological  
Seminary, N. Y.

SAMUEL MILTON SAMSON, Ph. B.

## 1890.

EMERY HERBERT BAYLEY, B. L.

WILLIAM JOSEPH HOSFORD, M. D.

GEORGE STERLING JOHNSON, M. D.

LEVIN POWELL LOGAN, M. D.

EMMA LORENA STERNBERG, B. A.

ELIZABETH BALLARD THOMPSON, B. A.

CARL FRIEDRICH WOLFER, M. D.

## GRADUATES FROM THE NORMAL SCHOOL.

JAMES ERNEST ANDREWS, 1887.

LILLIAN BUTTERS, 1879.

SARAH ELIZABETH HOLBROOK, 1889.

MARY PORTER, 1880.

WILBERTINE NESSLERHODE TETERS, '88

CYNTHIA WESTOVER, 1879.

## GRADUATES FROM THE PREPARATORY SCHOOL.

1878.

THURSTON AIKENS,  
GUSTAVUS A. CAGE,  
HENRY A. DRUMM,  
OSCAR JACKSON,  
JAMES IRVIN McFARLAND,  
JOHN JULIAN MELLETTTE,  
LILLIAN EMMA TYLER,  
MONTFORD SCHLEY WHITELEY,  
RICHARD HENRY WHITELEY, JR.

9.

1879.

NELLIE F. BARKER,  
CHARLES B. GALLUP,  
ERNEST M. PEASE,  
TIMOTHY W. STANTON,  
HELEN FLORENCE TYLER

5.

1880.

HELEN BEARDSLEY,  
CLARA BUTTLES,  
ALBERT J. GODDELL,  
BENJAMIN HOLSTEIN,  
FRANK C. LORING.

5.

1881.

ROBERT L. CULVER,  
EVERETT M. PICKEL,  
JUDSON ROWLAND,  
BURT TYLER,  
EDWARD CORNING WOLCOTT.

5.

1882.

JOSEPHINE BERKLEY,  
MARY VAN VALKENBURG,  
FREDRICK LINCOLN CHASE,  
CLARENCE PEASE,  
WILLIAM J. THOMAS.

5.

1883.

LILLIAN F. BEAN,  
NEWTON D. ESTES.

2.

1884.

MARY BALL JOHNSON,  
EDWARD COOK MASON,  
VICTOR IRWIN NOXON,  
CHARLES HERBERT PIERCE,  
JENNIE SEWALL,  
CATHERINE WISE.

6.

## 1885.

GEO. McCLELLAND CULVER,  
 GUY DALE DUNCAN,  
 LAMBERT STERNBERG,  
 LOMIE LOUISE WASHBURN, 4.

## 1886.

CATHARINE DORR, Latin-Scientific.  
 CORA EMMA LYCAN, Latin-Scientific.  
 SAMUEL MILTON SAMSON,  
     Latin Scientific.  
 EMMA LORENA STERNBERG,  
     Latin Scientific.  
 ELIZABETH BALLARD THOMPSON,  
     Latin-Scientific.  
     5.

## 1887.

JAMES ERNEST ADREWS, Classical.  
 ELLA BELLE CARPENTER, Scientific.  
 GENEVA COFFIN, Scientific.  
 ANNIE ELIZABETH CULVER, Scientific.  
 HORACE CHARLES HALL, Classical.  
 EDITH EDNA INGRAM, Scientific.  
 CHARLES FERDINAND MILLER,  
     Classical.  
 LEILA ROSE PEABODY, Scientific.  
 CORA ESTHER SHELDON, Classical.  
 LEWIS HARPER STANTON, Scientific.  
 GUY STERNBERG, Classical.  
 WILBERTINE NESSLERHODE TETERS,  
     Scientific.  
 HORTENSE WHITELEY, Scientific.  
 LILLIAN RACHEL WISE, Scientific.

14

## 1888.

CHARLES ROLAND BURGER, Classical.  
 EDWIN ESTES, Classical.  
 LESTER, LEON PORTER, Scientific.  
 GEORGINA ROWLAND, Scientific.

4

## 1889.

WINNIFRED ADAMS  
 IRVING ANDREWS,  
 SUSIE MAY ANDREWS,  
 FRED WILLIAM BURGER,  
 ALEXANDER DURWARD,  
 ARTHUR DURWARD,  
 MARGARET ELIZABETH DURWARD,  
 DELOS HOLDEN,  
 EDWIN JOHN INGRAM,  
 HELEN FRANC MAXWELL,  
 ORRILLE MABEL MAXWELL,  
 PAUL MCCOY NORTH,  
 HELEN VAN DEREN,  
 ZENA AGAR WHITELEY. 14

## 1890.

ALBERT THOMAS HENRY,  
 OTIS ALONZO KENDRICK,  
 HARRY MCGINNIS,  
 WILLIAM EDWARD MCINTOSH,  
 ALWYN CHARLES SMITH,  
 MILTON CLARENCE WHITAKER,  
 WILLIAM DANIEL WISE. 7

7

TOTAL

85

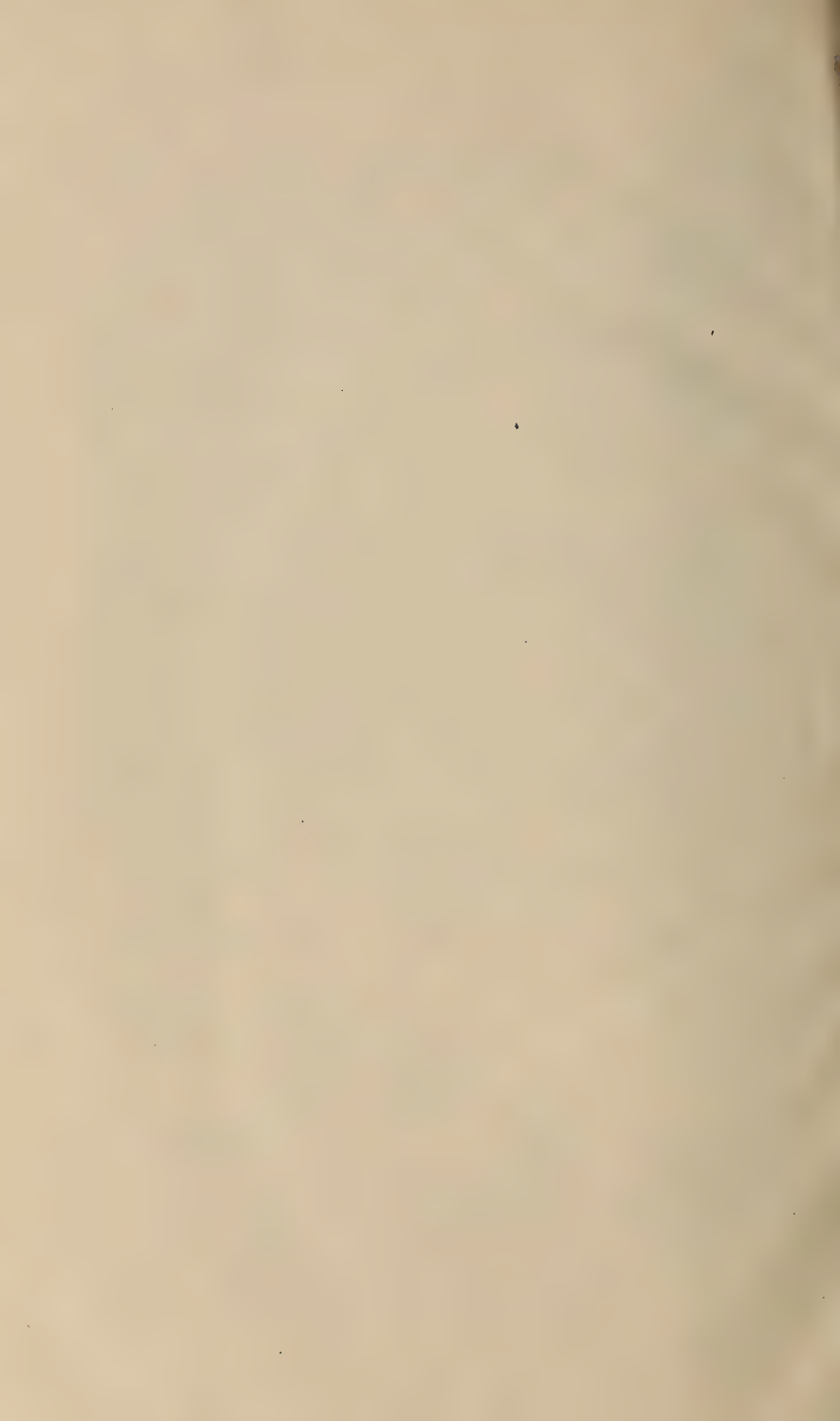
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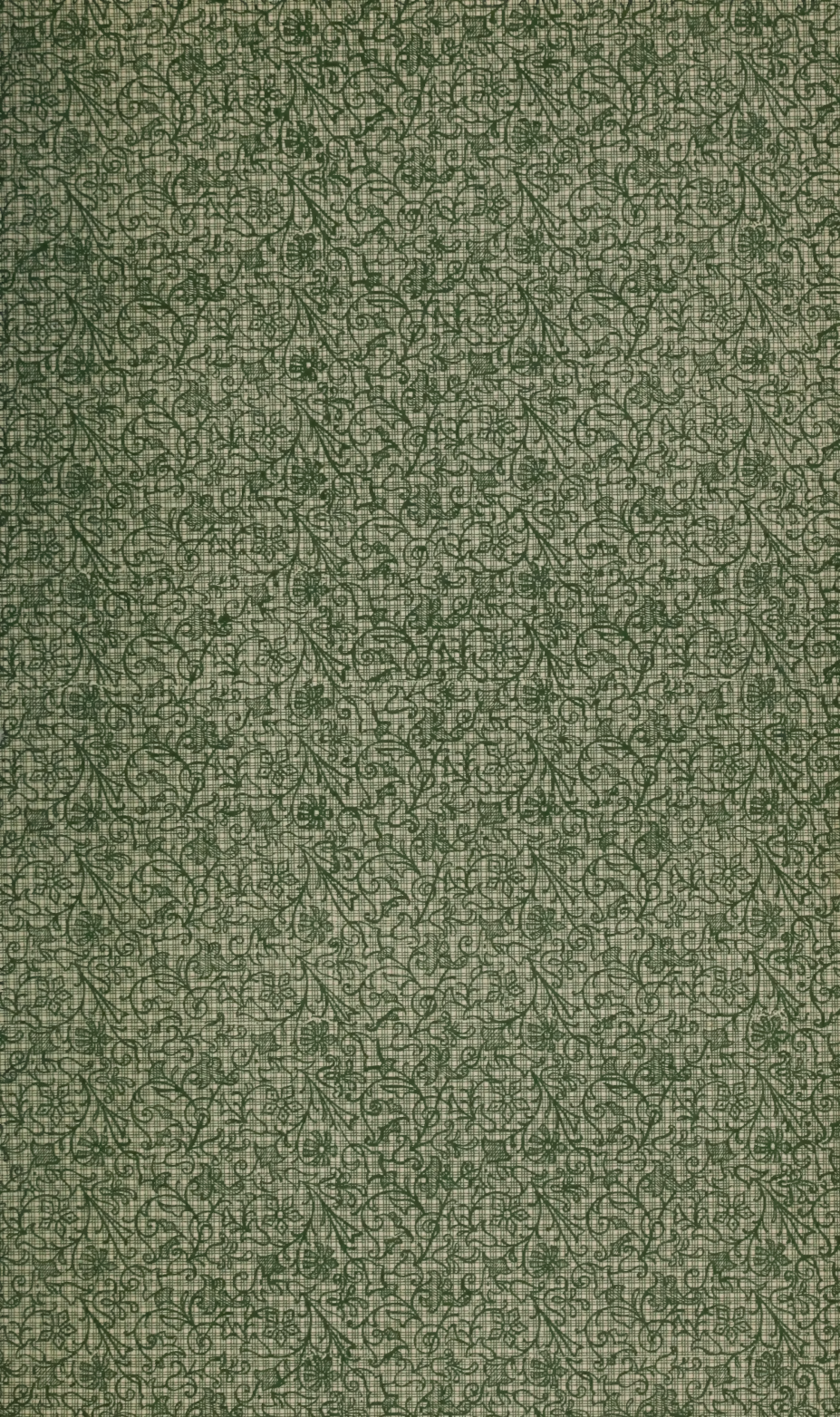














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